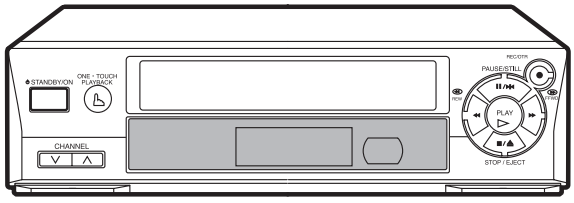
aiwa SERVICE

HV-FX5200 Z



SERVICE MANUAL

STEREO VIDEO CASSETTE RECORDER BASIC TAPE MECHANISM: D-33 (6721R-0152A)

aiwa

S/M Code No. 09-996-332-8R2

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SPECIFICATIONS

Video recording system	Rotary 2 head helical scanning system
Video head	Double azimuth 4 heads
Tuner system	Frequency synthesized tuner
TV system	B/G
Video signal system	PAL color signal, 625 lines, 50 fields
Usable cssettes	VHS video cassettes
Recording/playback time	PAL/MESECAM SP: 5 hours max. with E-300 tape. LP: 10 hours max. with E-300 tape NTSC (Playback only) SP: 3 hours 30 minutes max. with T-210 tape LP: 7 hours 30 minutes max. with T-210 tape EP: 10 hours 30 minutes max. with T-210 tape
Tape speed	PAL/MESECAM SP: 23.39 mm/sec. LP: 11.69 mm/sec. NTSC (Playback only) SP: 33.35 mm/sec. LP: 16.67 mm/sec. EP: 11.12 mm/sec.
Rewind time:	Approx. 3 min. with E-180 tspe
Channel coverage	VHF-low: C02 to C04, C13 to C20, S01 to S07 (CATV) VHF-high: C05 to C12, S08 to S41 (CATV) UHF: C21 to C71
Video input	1.0 Vp-p, 75 ohm, unbalanced
Video output	1.0 Vp-p, 75 ohm, unbalanced
Horizontal resolution	240 lines (SP)
Video S/N	43 dB (SP)
Audio track	3 tracks (Hi-Fi sound 2 tracks, Normal sound 1 track)
Audio input	SCART: -5 dBs, more than 10 k ohm
Audio output	SCART: -5 dBs, less than 1 k ohm
Hi-Fi frequency response	20 Hz - 20 kHz
Hi-Fi dynamic range	More than 80 dB
Hi-Fi Wow & Flutter	Less than 0.01%(nominal)
Operating temperature:	5 °C to 40 °C
Power requirements	200 - 240 V AC, 50 Hz
Power consumption	20 watts TYPE 3.5 watts (power save mode.)
Dimensions	360 (W) x 278 (D) x 95 (H) mm ($14^1/_4$ x 11 x $3^3/_4$ in.)
Weight	Approx. 3.4 kg (7.48 lbs.)

• Design and specifications are subject to change without notice.

ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S8-35R-P00-43J		INSTRUCTION ASSY
2	S7-11R-1P0-16C		REMOTE CONTROLLER ASSY
3	S5-640-18B-000		PLUG ASSY PHONO CORD
4	S8-610-33B-000		CABLE SET ASSY
6	S8-615-05R-000		CABLE ASSY

DISASSEMBLY INSTRUCTIONS

1. Top Case Removal

1) Remove 4 screws holding the top case.

2. Panel Front Removal (see Fig. 1)

1) Release 7 tabs, and then remove the panel front.

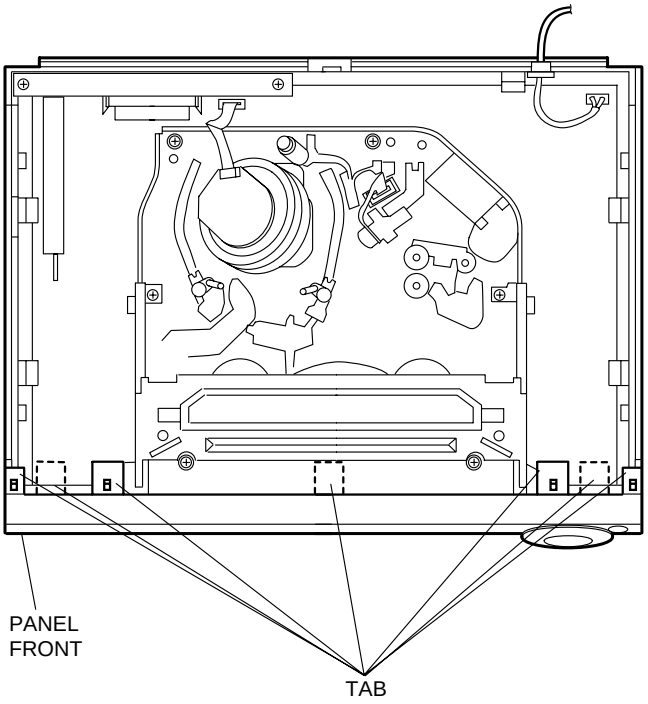


Fig. 1

3. Front-1 C.B. and Front-2 C.B. Removal (see Fig. 2)

1) Release 2 tabs, and then remove front-1 C.B. from the connector (PKM02) in the direction of arrow (1).
2) Release the tab, and then remove front-2 C.B. from the connector (PKM01) in the direction of arrow (2).

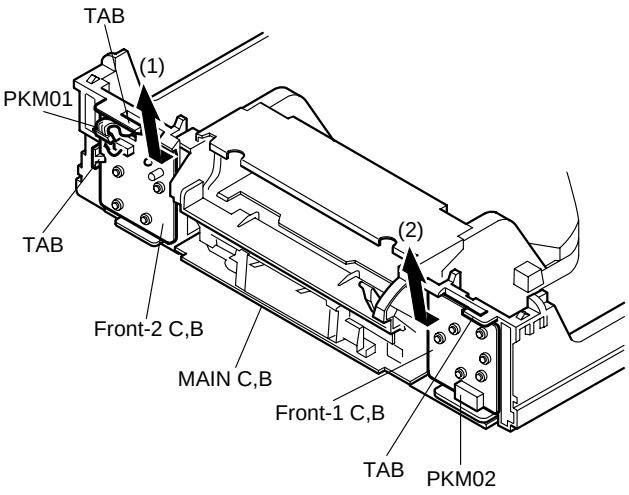


Fig. 2

4. Mechanism Removal (see Fig. 3)

1) Disconnect the drum FF cable from the connector (PMD01) on the Main C.B.
2) Disconnect the ACE head FF cable from the connector (P3D02) on the Main C.B.
3) Remove 6 screws (A).

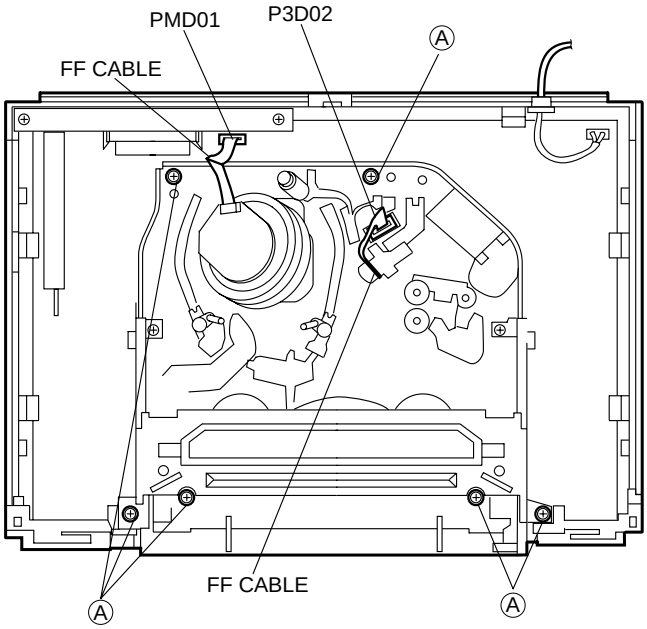


Fig. 3

5. Main C.B. Removal (see Fig. 4)

1) Remove 2 screws (B) holding the panel assy, distri-butor.
2) Release 5 tabs, and then simultaneously lift the panel assembly, distributor and Main C.B. to remove them.

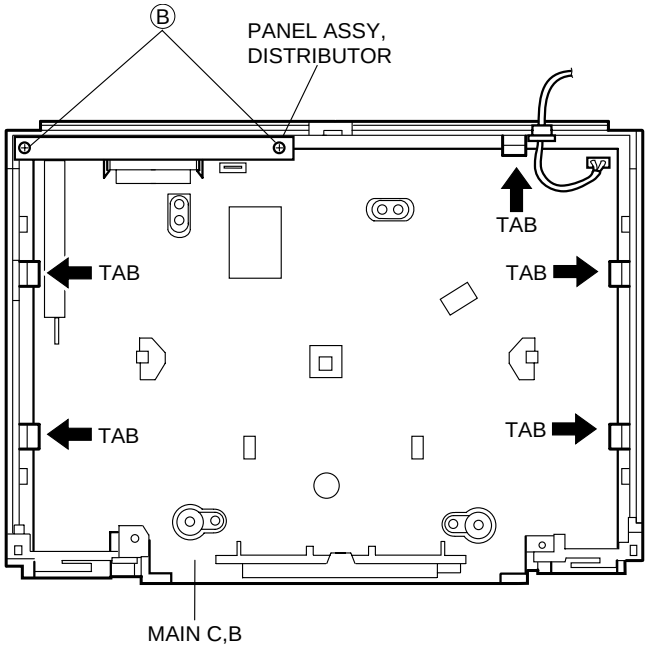
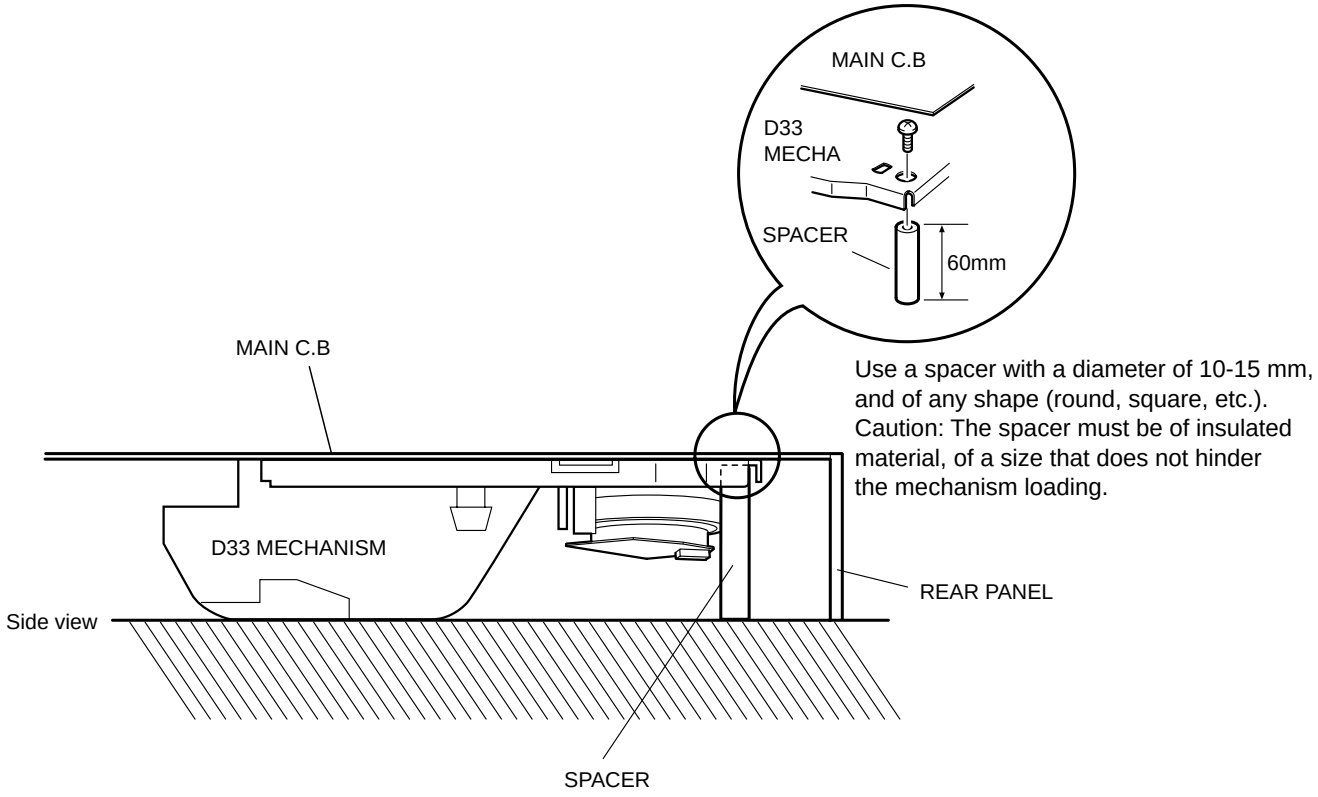


Fig. 4

SERVICE POSITION

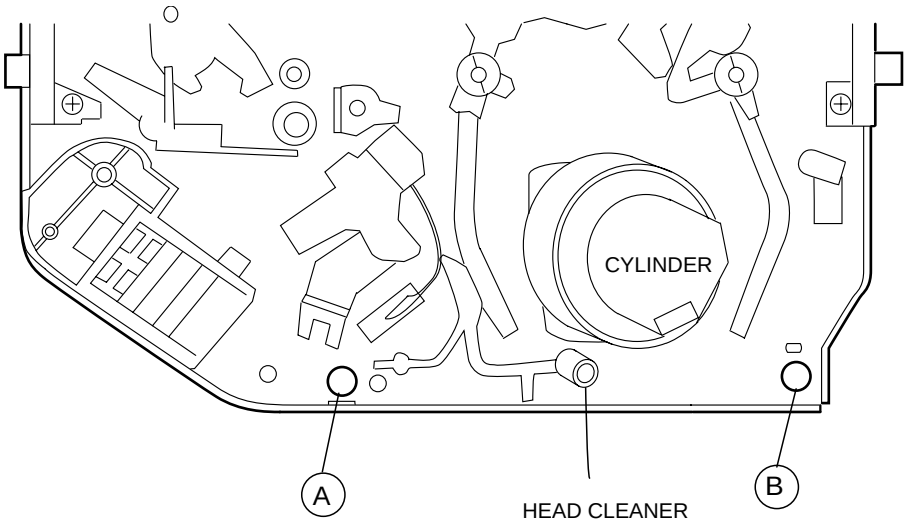
To set the mechanism to the service position in active status:

Insert a spacer as shown below: The service position can be set in the stable status without any defective contact.


MAIN C.B
D33
MECHA
SPACER
60mm
MAIN C.B
Use a spacer with a diameter of 10-15 mm, and of any shape (round, square, etc.). Caution: The spacer must be of insulated material, of a size that does not hinder the mechanism loading.
D33 MECHANISM
REAR PANEL
Side view
SPACER

Location

Install spacers at locations (A) and (B).



D33 Mechanism Top View

VCR TEST TAPE INTERCHANGEABILITY TABLE

There are two types of the new allgnment tape CH-1B (for NTSC) and CH-2 (for PAL). On each tape four signals (1)-(4) are recorded for the times and in the order shown below.

(1) : 8min. → (2) : 2min. → (3) : 5min. → (4) : 5min.

The TTV-MP1 (for M-PAL), TTV-MS1 (for MESECAM) and TTV-S1 (for SECAM) allgnment tapes have the same contents as the previous tapes.

Method	Now in use TYPE		New TYPE		Application
	Model	Contents *1	Model	Contents *1	
NTSC	TTV-N1	NTSC, Color bar, 1 kHz, SP	CH-1B(2)	NTSC, Stairsteps, 1 kHz, SP	PB-Y Level/General electrical ADJ. Head ACE Height/Tilt ADJ.
	TTV-NS1	NTSC, Color bar, 1 kHz, SP	No Changed.		For S-VHS (SQPB) check
	TTV-N1E	NTSC, Color bar, 1 kHz, EP	CH-1B(4) *2	NTSC, Color bar, 1 kHz, EP	Switching position ADJ.
	TTV-NS6E	NTSC, Color bar, No sound, EP	No Changed.		For S-VHS (SQPB) check
	TTV-N2	NTSC, Stairsteps, 7 kHz, SP	CH-1B(1)	NTSC, Stairsteps, 7 kHz, SP	Head ACE Azimuth ADJ.
	TTV-N12 (SCV-1998)	NTSC, Color bar, 1 kHz, SP	CH-1B(4)	NTSC, Color bar, 1 kHz, EP	FM Envelope ADJ. X-Value ADJ.
	TTV-N6 (TTV-N06T)	NTSC, Mono scope, 7 kHz, SP	No Changed.		For total picture quality check (resolution, etc)
	TTV-N7A	NTSC, Stairsteps, 1 kHz, SP, HiFi 400 Hz	CH-1B(3)	NTSC, Color bar, No sound SP, HiFi 400 Hz	HiFi Audio PB Level ADJ.
PAL	TTV-P1	PAL, Color bar, 1 kHz, SP	CH-2 (2) * 3	PAL, Stairsteps, 1 kHz, SP	Switching position ADJ. PB-Y Level/General electrical ADJ. Head ACE Height/Tilt ADJ.
	TTV-P1L	PAL, Color bar, 1 kHz, LP	CH-2 (4)	PAL, Color bar, 1 kHz, LP	Switching position. (LP Model) FM Envelope ADJ. (LP Model) X-Value ADJ. (LP Model)
	TTV-P2	PAL, Stairsteps, 6 kHz, SP	CH-2 (1)	PAL, Stairsteps, 6 kHz, SP	HEAD ACE Azimuth ADJ. FM Envelope ADJ. (SP Model) X-Value ADJ. (SP Model)
	TTV-P6 (TTV-N06T)	PAL, Monoscope, 6 kHz, SP	No Changed.		For total picture quality check (resolution, etc)
	TTV-P7	PAL, Stairsteps, 1 kHz, SP, HiFi 1 kHz	CH-2 (3)	PAL, Color bar, No sound SP, HiFi400 Hz	HiFi Audio PB Level ADJ.
	TTV-P16	PAL, Color bar, 400 Hz, SP, HiFi 1 kHz	No Changed.		FM Filter ADJ.

* 1. Described in the order of color format. video signal. linear audio. tape speed and Hi-Fi audio.
* 2. Use CH-1B (1)-(3) with models used exclusively in the SP mode.
* 3. Use CH-2 (3) and (4) when it is necessary to observe the chroma signal.

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	SI-SK6-153-00A		IC,STR-G6153T 5P
⚠	S2-309-024-040		SENSOR LTV-817B PHOTO COU
⚠	S6-570-62B-000		SENSOR PC123Y
	SI-SS4-310-00A		IC,KA431AZ
	SI-KE4-310-00A		IC,KIA431 3P
	SI-SA7-159-10A		IC,LA71591M
	SI-GS3-977-57B		IC,GMS3977RAA57F
	SI-HI3-977-17A		IC,HD3977RC17F
	SI-SS3-082-00A		IC,KA3082
	SI-AL2-416-00B		IC,AT24C16-10PC
	SI-SS7-531-00A		IC,KA7531Z
	SI-KE7-031-00A		IC,KIA7031P
	SI-SS7-542-00A		IC,KA7542Z
	87-001-196-010		IC,KIA7042P
	87-A20-281-010		IC,MN12510
	SI-IT3-407-00A		IC,MSP3407D
	SI-SA7-479-30A		IC,LC74793
	SI-PH9-605-00A		IC,TDA9605H
	SI-RH7-635-00A		IC,BH7635S
TRANSISTOR			
	ST-R32-030-9AA		TR,KTC3203-Y
	S7-A30-293-010		TR,KTC2804-Y
	ST-R31-980-9AC		TR,KTC3198-TP-BL
	S3-1KR-A10-3M0		TR,KRA103M-TP
	ST-R70-900-9AE		TR,KSA709C-Y
	ST-R12-680-9BA		TR,KTA1268-BL
	ST-R12-730-9AA		TR,KTA1273-TP-Y
	SK-RC1-01M-000		TR,KRC101M
	ST-R31-990-9AF		TR,KTC3199-BL
	ST-R12-670-9AC		TR,KTA1267-GR
	ST-R10-300-9AE		TR,KRC103M
DIODE			
	87-070-173-010		DIODE,S1WBA60
	SD-D01-000-9CA		DIODE,EG01CW
	87-A40-284-080		DIODE,ERA22-10
	SD-D01-000-9AC		DIODE,EU01W
	87-020-215-010		DIODE,ERC81-004L22
	SD-R18-020-9AA		DIODE,ERA18-02KFRB
	87-070-112-060		DIODE,RU4YX-LF
	87-020-465-080		DIODE,1SS133
	87-017-011-080		DIODE,IN4003A
MAIN C.B			
BC101	S6-360-04C-000		COIL,BFS3550R2FD8
BC102	S6-360-04C-000		COIL,BFS3550R2FD8
BC905	S6-360-04C-000		COIL,BFS3550R2FD8
BC907	S6-360-04C-000		COIL,BFS3550R2FD8
⚠C101	S6-240-88F-000		CAP,0.1UF-275V
⚠C102	S6-240-88F-000		CAP,0.1UF-275V
⚠C103	S0-2TF-H68-0M0		CAP,E 68U-400V
⚠C105	87-016-375-010		CAP,0.01UF-630V
⚠C106	S6-240-87B-000		CAP,100P-1KV
C109	87-010-982-040		CAP,E 33UF-25V
⚠C112	87-012-379-010		CAP,3300PF-400V
⚠C113	SA-1B3-0KH-2M0		CAP,220PF-400V
C115	87-010-408-040		CAP,E 47UF-50V
C116	87-010-237-910		CAP,E 1000UF-16V
C117	87-016-577-080		CAP,E 470UF-16V
C118	87-010-248-080		CAP,E 220-10V
C119	87-010-408-040		CAP,E 47UF-50V
C120	87-010-387-010		CAP,E 470UF-25V KME
C121	87-010-387-080		CAP,E 470UF-25V
C123	87-010-078-080		CAP,E 47M-6.3V
C124	87-010-552-040		CAP,E 22-16V
C151	87-015-698-080		CAP,E 4.7-50V
C152	87-015-698-080		CAP,E 4.7-50V
C153	87-015-698-080		CAP,E 4.7-50V
C156	87-015-681-080		CAP,E 10-16V
C157	87-015-681-080		CAP,E 10-16V
C159	87-015-681-080		CAP,E 10-16V
C303	87-015-695-080		CAP,E 1.0-50V
C304	87-016-088-040		CAP,E 220-6.3V
C310	87-015-698-080		CAP,E 4.7-50V
C315	87-015-681-080		CAP,E 10-16V
C316	87-015-681-080		CAP,E 10-16V
C318	87-010-402-040		CAP,E 2.2-50V
C320	SC-N10-50K-948		CAP,1UF-50V
C322	87-010-078-080		CAP,E 47M-6.3V
C323	87-010-078-080		CAP,E 47M-6.3V
C325	SC-N10-50K-948		CAP,1UF-50V
C326	87-015-681-080		CAP,E 10-16V
C327	SC-N10-50K-948		CAP,1UF-50V
C331	87-016-088-040		CAP,E 220-6.3V
C334	87-016-088-040		CAP,E 220-6.3V
C337	87-015-698-080		CAP,E 4.7-50V
C339	87-015-698-080		CAP,E 4.7-50V
C346	87-016-088-040		CAP,E 220-6.3V
C348	87-015-695-080		CAP,E 1.0-50V
C354	87-016-088-040		CAP,E 220-6.3V
C358	87-015-695-080		CAP,E 1.0-50V
C401	87-010-078-080		CAP,E 47M-6.3V
C405	87-015-681-080		CAP,E 10-16V
C406	87-015-681-080		CAP,E 10-16V
C415	87-010-552-040		CAP,E 22-16V
C420	87-010-408-040		CAP,E 47UF-50V
C423	87-015-698-080		CAP,E 4.7-50V
C466	87-010-403-040		CAP,E 3.3-50V
C4A1	87-010-552-040		CAP,E 22-16V
C500	87-016-455-080		CAP,E 470UF-6.3V
C502	87-010-078-080		CAP,E 47M-6.3V
C504	87-016-088-040		CAP,E 220-6.3V
C505	87-010-078-080		CAP,E 47M-6.3V
C524	87-010-265-080		CAP,E 33-16V
C525	87-015-684-080		CAP,E 47-16V
C526	87-016-130-080		CAP,47-25V
C530	87-015-681-080		CAP,E 10-16V
C534	87-015-698-080		CAP,E 4.7-50V
C535	87-015-698-080		CAP,E 4.7-50V
C541	87-015-698-080		CAP,E 4.7-50V
C546	87-015-684-080		CAP,E 47-16V
C561	87-010-078-080		CAP,E 47M-6.3V
C588	87-015-698-080		CAP,E 4.7-50V
C5F7	87-010-078-080		CAP,E 47M-6.3V
C5F8	87-010-078-080		CAP,E 47M-6.3V
C701	87-015-698-080		CAP,E 4.7-50V
C702	87-015-681-080		CAP,E 10-16V
C703	87-015-698-080		CAP,E 4.7-50V
C704	87-010-078-080		CAP,E 47M-6.3V
C706	87-016-577-080		CAP,E 470UF-16V
C713	87-010-078-080		CAP,E 47M-6.3V
C7M2	87-015-684-080		CAP,E 47-16V
C7V1	87-015-684-080		CAP,E 47-16V
C7V2	SC-N10-50K-948		CAP,1UF-50V
C7V6	87-015-698-080		CAP,E 4.7-50V
C7V7	87-015-695-080		CAP,E 1.0-50V
C7V8	87-015-695-080		CAP,E 1.0-50V
C806	87-015-698-080		CAP,E 4.7-50V
C807	87-015-698-080		CAP,E 4.7-50V
C810	87-015-681-080		CAP,E 10-16V
C811	87-015-681-080		CAP,E 10-16V
C813	87-015-681-080		CAP,E 10-16V
C814	87-015-681-080		CAP,E 10-16V
C815	87-015-681-080		CAP,E 10-16V

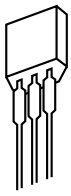
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C816	87-015-681-080		CAP,E 10-16V
C817	87-015-681-080		CAP,E 10-16V
C818	87-015-698-080		CAP,E 4.7-50V
C819	87-015-681-080		CAP,E 10-16V
C821	87-015-684-080		CAP,E 47-16V
C822	87-015-681-080		CAP,E 10-16V
C823	87-015-681-080		CAP,E 10-16V
C824	87-015-681-080		CAP,E 10-16V
C825	87-015-684-080		CAP,E 47-16V
C827	87-015-681-080		CAP,E 10-16V
C828	87-015-684-080		CAP,E 47-16V
C832	87-010-078-080		CAP,E 47M-6.3V
C835	87-010-400-080		CAP,E 0.47-50V
C902	87-016-577-080		CAP,E 470UF-16V
C912	87-016-577-080		CAP,E 470UF-16V
C941	87-015-681-080		CAP,E 10-16V
C942	87-010-132-080		CAP,E 1.0-50V
C948	87-015-681-080		CAP,E 10-16V
C950	87-015-681-080		CAP,E 10-16V
C951	87-015-684-080		CAP,E 47-16V
CS501	S6-00R-DB0-04B		SW SPPB62042 5V
CS501	S6-00R-DB0-04C		SW,MPU10252MLB4 MIC
DIG5F1	S3-02R-1N0-03A		DH 9MT168GK
DIG5F1	S3-02R-2N0-03A		DH SVV09MM14
ES501	S9-31R-001-6A0		SENSOR END
ES502	S9-31R-001-6A0		SENSOR END
⚠F101	S5-850-11T-000		FUSE,1600MA 250V
⚠F101	S5-850-11C-000		FUSE,T 1.6A 250V
⚠F103	87-001-196-010		ICP-N10 T104
⚠FH01	S5-860-08B-000		FUSE CLUMP
⚠FH02	S5-860-08B-000		FUSE CLUMP
JK901	S6-20R-M00-02A		JACK 42P
JK902	S5-720-36H-000		JK BJP
⚠L102	S6-161-45H-000		FILTER SHT LFS2020V4-04350
⚠L102	S6-161-45J-000		FL BUJEON V-04350
L103	S6-330-88G-000		COIL,CHOCK TP 5MM
L104	S6-330-88G-000		COIL,CHOCK TP 5MM
L105	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L301	87-005-196-080		COIL,10UH
L302	87-003-286-080		COIL,56 2.3-3.4-5
L303	87-003-148-080		INDUCTOR,33
L304	87-005-696-080		COIL,100UH
L307	87-005-696-080		COIL,100UH
L308	87-003-282-080		COIL,12 2.3-3.4-5
L309	87-005-696-080		COIL,100UH
L401	87-003-145-080		INDUCTOR,8.2
L402	87-003-129-080		INDUCTOR,6800
L405	87-005-196-080		COIL,10UH
L502	87-005-696-080		COIL,100UH
L505	87-005-696-080		COIL,100UH
L506	87-005-686-080		COIL,15UH
L507	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L5S1	87-003-148-080		INDUCTOR,33
L701	87-005-696-080		COIL,100UH
L702	87-005-196-080		COIL,10UH
L703	87-005-196-080		COIL,10UH
L704	87-003-145-080		INDUCTOR,8.2
L705	87-005-196-080		COIL,10UH
L7V1	87-005-696-080		COIL,100UH
L801	87-005-696-080		COIL,100UH
L802	87-005-696-080		COIL,100UH
L901	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L902	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L904	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L906	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L911	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L912	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L914	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L916	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L924	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L926	87-003-152-080		INDUCTOR,100M 2.3-3.4-5
L941	87-005-696-080		COIL,100UH
LD501	S9-31R-001-7A0		LED
MS501	S6-00R-PY0-01B		SW,MMS00420ZMBO MIC
P3D01	S5-612-34W-000		CONN,10P
P3D02	S6-30R-5S0-08E		CONN,6P
P3D03	S5-612-51B-000		CONN,2P
PKM01	S5-610-36D-000		CONN,5P
PLM02	S5-618-44J-000		TUC-P10X-B1,TAIKO B-B 10 P
PMC01	S6-30R-2P0-05C		CONN,8P
PMD01	S5-612-34V-000		CONN,7P
PMK01	S6-724-34B-000		CONN,5P
PMK02	S5-618-43J-000		CONN,TUC-P10P
PML01	S6-30R-2S0-11A		CONN,2P
⚠PW101	S5-612-92B-000		GP390 LGC 3P STRAIG P
⚠R101	S6-140-07R-000		RES,2.7-2W
⚠R102	SR-S10-03K-619		RES,100K-2W
⚠R104	SR-S56-02K-619		RES,56K-2W
⚠R109	SR-S03-50K-619		RES,0.35-2W
R524	SR-F06-81J-619		RES,6.8-1W
R/C5F1	S7-12R-293-8GA		REMOCON RECEIVER
RS501	S5-00R-AB0-02A		SENSOR GP1S566
RS502	S5-00R-AB0-02A		SENSOR GP1S566
⚠T101	S6-420-23M-000		TRANS EER2828
TL401	S6-330-32K-000		COIL,OSC BIAS 1CHIP 5V
TU701	S7-00R-P3L-02E		TADC-G006D LGC&D G/K/I H ITU
TU701	S7-00R-P3G-01E		TCMK0601PD08C SS G/K/I H ITU
VR501	S6-130-32W-000		SFR,RH0638CJ5R(220K)
X301	S2-02R-144-3AC		X'TAL,4.433709M
X301	S2-02R-144-3AD		X'TAL,4.433709M
X301	S2-02R-144-3AE		X'TAL,4.433709MHZ 15PPM
X501	S2-02R-310-01F		X'TAL,10.0000
X501	S2-02R-310-01E		X'TAL,10.0000MHZ
X502	S5-290-01B-000		X'TAL,32.768KHZ
X502	S5-290-01K-000		X'TAL,32.768KHZ
X503	S2-02R-317-71F		X'TAL,17.7344
X503	S2-02R-317-71E		X'TAL,17.734476MHZ
X5F1	S6-180-10B-000		X'TAL,4MHZ
X7V1	S2-02R-317-71F		X'TAL,17.7344
X7V1	S2-02R-317-71E		X'TAL,17.734476MHZ
ZD104	83-NEG-677-080		DIODE,MTZ5.6B
ZD151	SD-Z13-000-9AA		ZENER,MTZ13A
ZD152	87-A40-345-080		ZENER,MTZ10-C
ZD153	SD-Z13-000-9AA		ZENER,MTZ13A
ZD501	SM-TZ6-8CT-000		ZENER,MTZ6.8C
ZD503	83-NEG-678-080		ZENER,MTZ6.2B
ZD5F1	SD-Z51-000-9HA		ZENER,MTZ5.1B 0.5W
ZD701	87-002-743-080		ZENER,MTZ33B
ZD801	83-NEG-677-080		DIODE,MTZ5.6B
ZD802	SD-Z13-000-9AA		ZENER,MTZ13A
ZD805	SD-Z51-000-9HA		ZENER,MTZ5.1B 0.5W
ZD806	SD-Z51-000-9HA		ZENER,MTZ5.1B 0.5W
ZD807	SD-Z13-000-9AA		ZENER,MTZ13A

NICAM C.B

C752	87-015-684-080		CAP,E 47-16V
C753	87-015-684-080		CAP,E 47-16V
C760	87-015-684-080		CAP,E 47-16V
C761	87-010-403-040		CAP,E 3.3-50V
C763	87-015-681-080		CAP,E 10-16V
C765	87-015-684-080		CAP,E 47-16V
C773	87-015-681-080		CAP,E 10-16V
C774	87-015-681-080		CAP,E 10-16V
C775	87-015-681-080		CAP,E 10-16V
C776	87-015-681-080		CAP,E 10-16V
L752	87-005-696-080		COIL,100UH
L753	87-005-696-080		COIL,100UH
L754	87-003-129-080		INDUCTOR,6800
L755	87-003-129-080		INDUCTOR,6800

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
P7M51	S5-618-48D-000		CABLE 6P
P7M52	S5-618-48F-000		CABLE 9P
FRONT-1 C.B			
PMK02	S5-618-44J-000		CONN,10P
SW5A1	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A2	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A3	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A4	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A5	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A6	S5-562-82C-000		SW,SKQNQED ALPS 5MM
X751	S5-290-219-000		X'TAL 18.432MHZ
FRONT-2 C.B			
LD5A1	SD-L53-110-0AA		LED,SG5311(GRN)
PMK01	S5-610-36D-000		CONN,5P
SW5A0	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A7	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A8	S5-562-82C-000		SW,SKQNQED ALPS 5MM
SW5A9	S5-562-82C-000		SW,SKQNQED ALPS 5MM

TRANSISTOR ILLUSTRATION



E C B

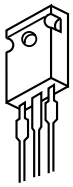
KRA103M
KRC101M
KRC103M
KTA1267
KTC3198
KTC3199

E C B

KSA709
KTA1268
KTC3203

E C B

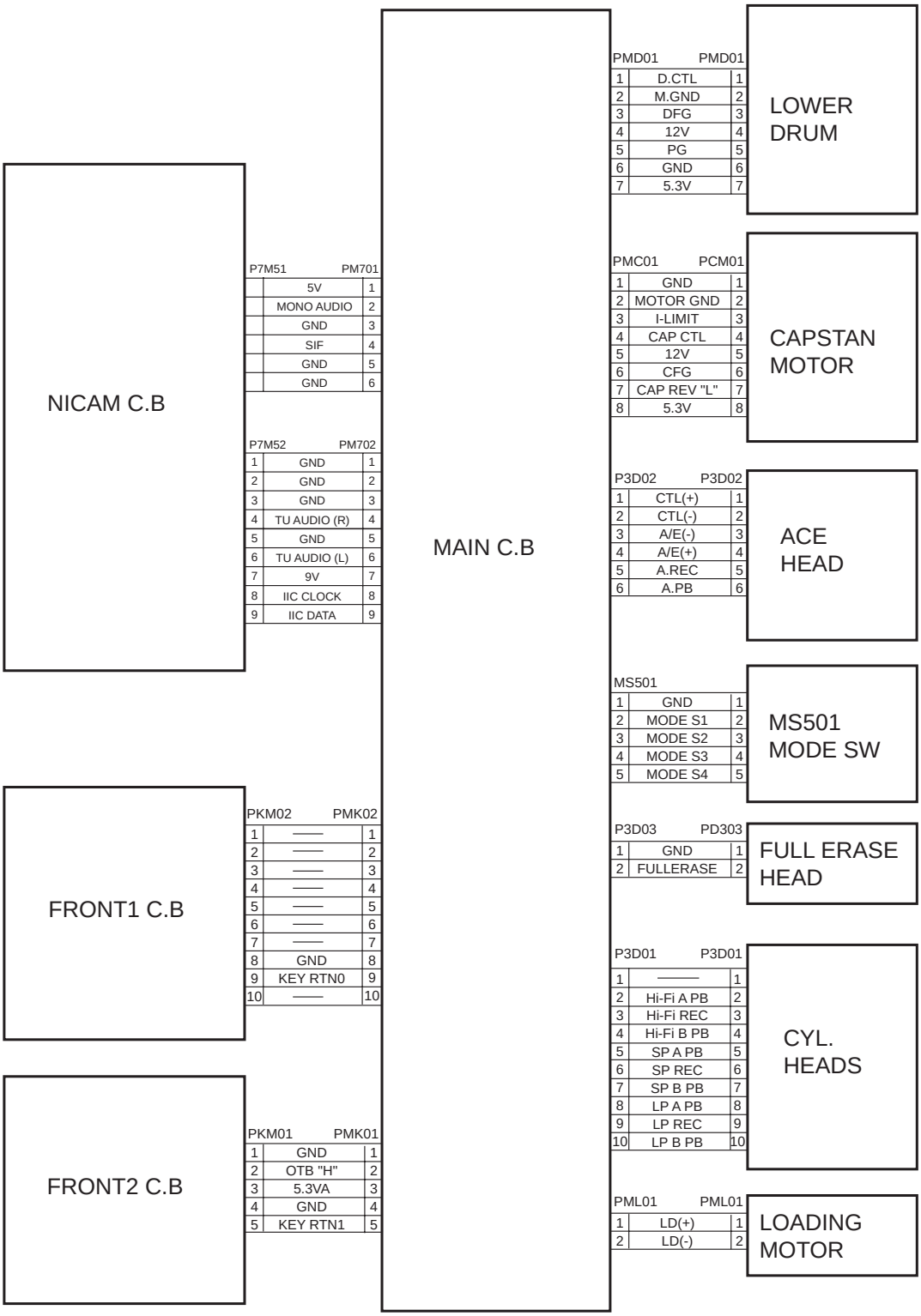
KTA1273



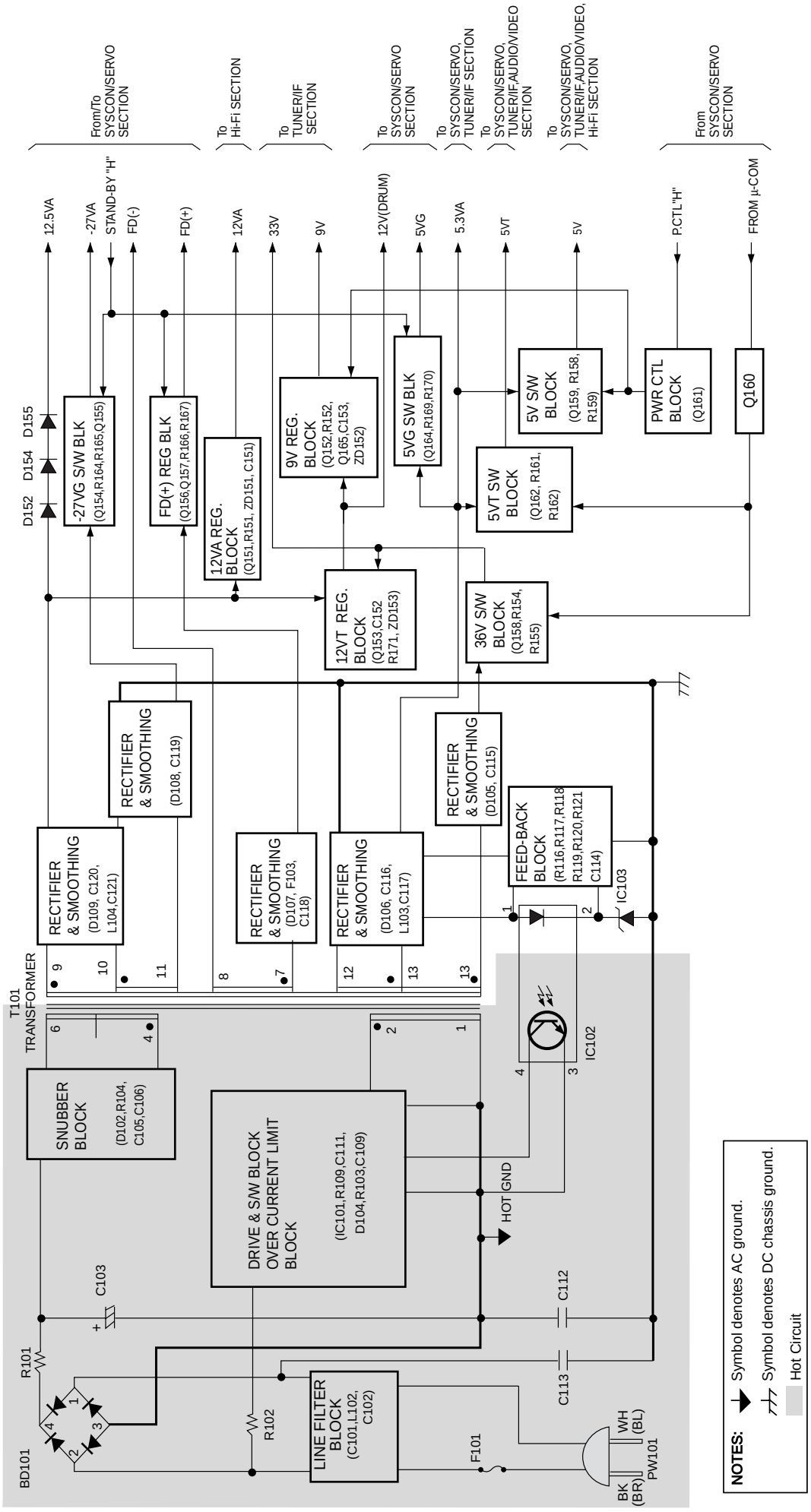
E C B

KTC2804

WIRE HARNESS DIAGRAM

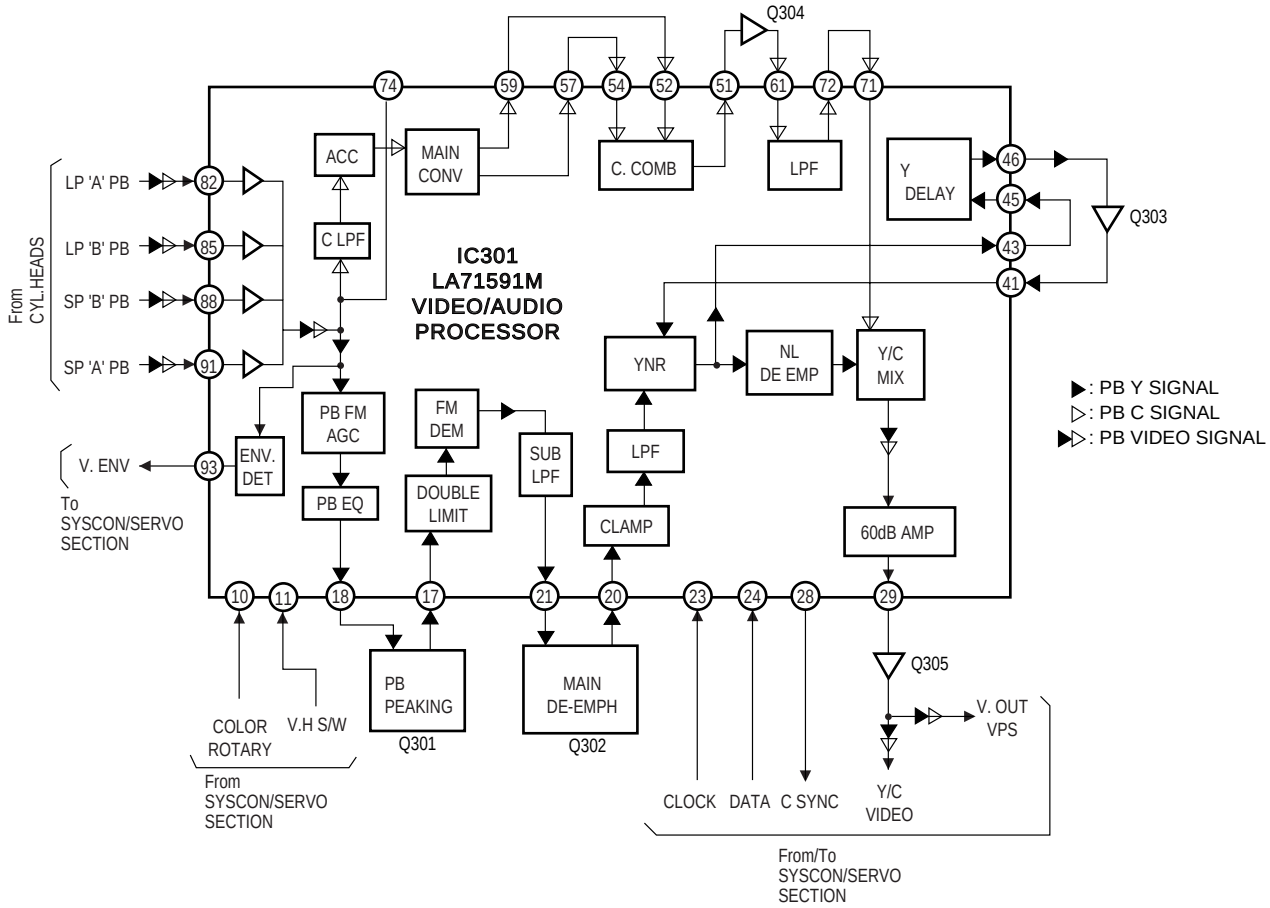


BLOCK DIAGRAM-1 (POWER SECTION)

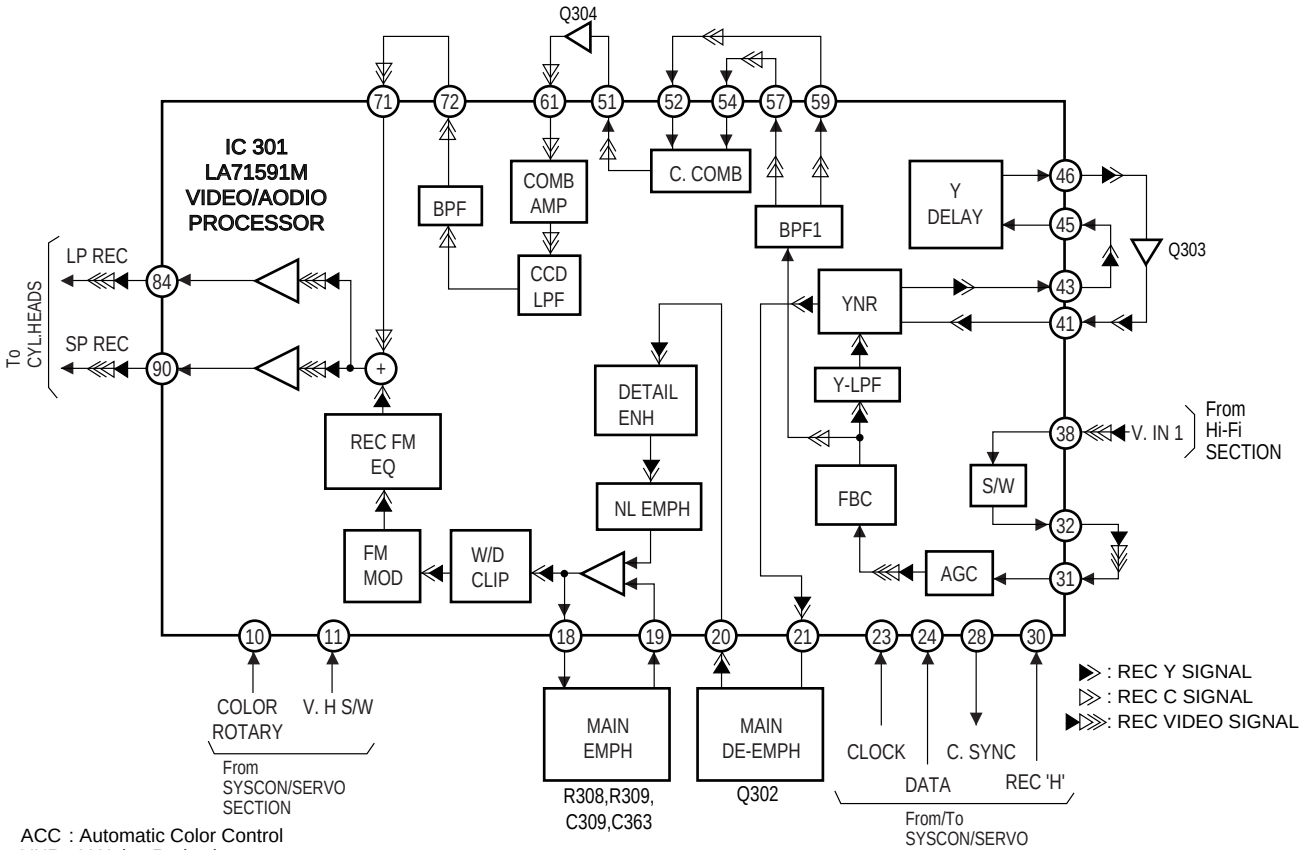


BLOCK DIAGRAM-2 (VIDEO SECTION)

PB MODE

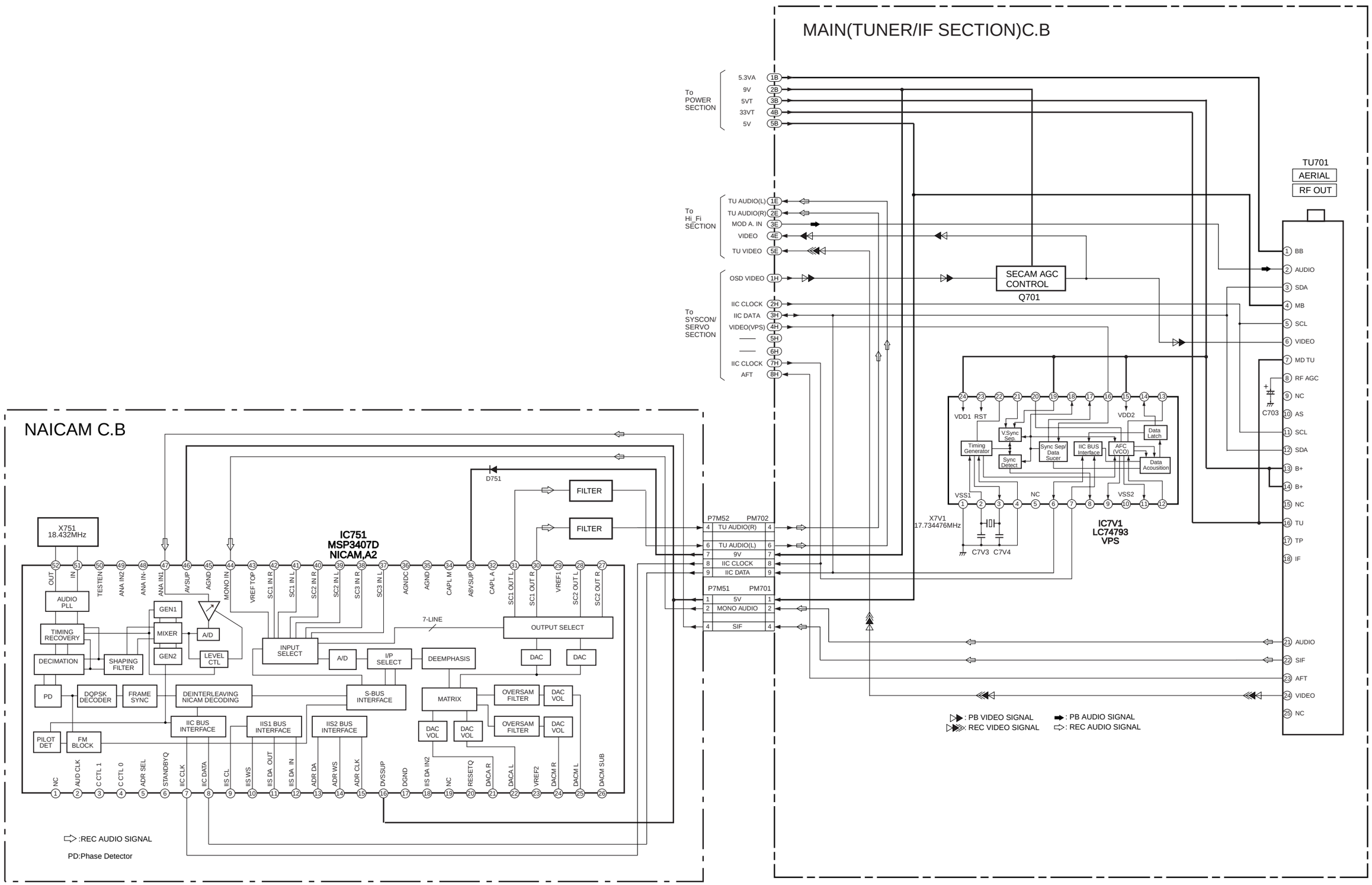


REC MODE



ACC : Automatic Color Control
YNR : Y Noise Reduction
LPF : Low Pass Filter
BPF : Band Pass Filter
FBC : Feed Back Clamp

BLOCK DIAGRAM-3 (TUNER/IF, NICAM, A2 SECTION)



BLOCK DIAGRAM-4 (Hi-Fi/SCART SECTION)

MAIN(Hi-Fi SECTION)C.B

From POWER SECTION: 12VA (1A), 5V (2A)

To/From A/V SECTION: HF A PB (1G), HF REC (2G), HF B PB (3G)

To/From SYSCON/ SERVO SECTION: A.H/SW (1J), IIC DATA (2J), IIC CLOCK (3J), A.ENV. (4J)

From TUNER/IF SECTION: TU AUDIO(L) (1E), TU AUDIO(R) (2E), VIDEO (4E), TU VIDEO (5E)

To/From A/V SECTION: AUDIO IN 1 (5G), MONO AUDIO (4G), VIDEO IN 1 (6G)

ZD801, ZD802

C801

IC801 TDA9605H VHS Hi-Fi AUDIO PROCESSOR

I²C, DOC, DCL, DCR

HF LPF, PLL 1.3M CCO, LEVEL DET. HF LIMITER, 1.3M BPF, HF AGC

HF LPF, PLL 1.7M CCO, LEVEL DET. HF LIMITER, 1.7M BPF

NOISE SUPPR., AUDIO CLIPPER, NOISE REDUCTION

INPUT SELECT

PEAK HOLD, OUTPUT SELECT

LINE SELECT, DEC. SELECT, NORMAL SELECT

A.H/SW (41), VCCH (40), GNDH (39), VCC (34), Vref (29), Lref (28), GND (27)

:PB VIDEO SIGNAL
:REC VIDEO SIGNAL
: VIDEO SIGNAL
:PB AUDIO SIGNAL
:REC AUDIO SIGNAL

I2C : Inter IC Bus
DOC : Drop Out Compensator

IC901 BH7635S VIDEO SYGNAL SELECTOR

IC-BUS CONT., 5V REG, CLAMP, VCC, GND

JK902: AUDIO OUT(R), AUDIO OUT(L)

L905 BEAD

JK901 SCART1 — AV1 IN/OUT (TV)

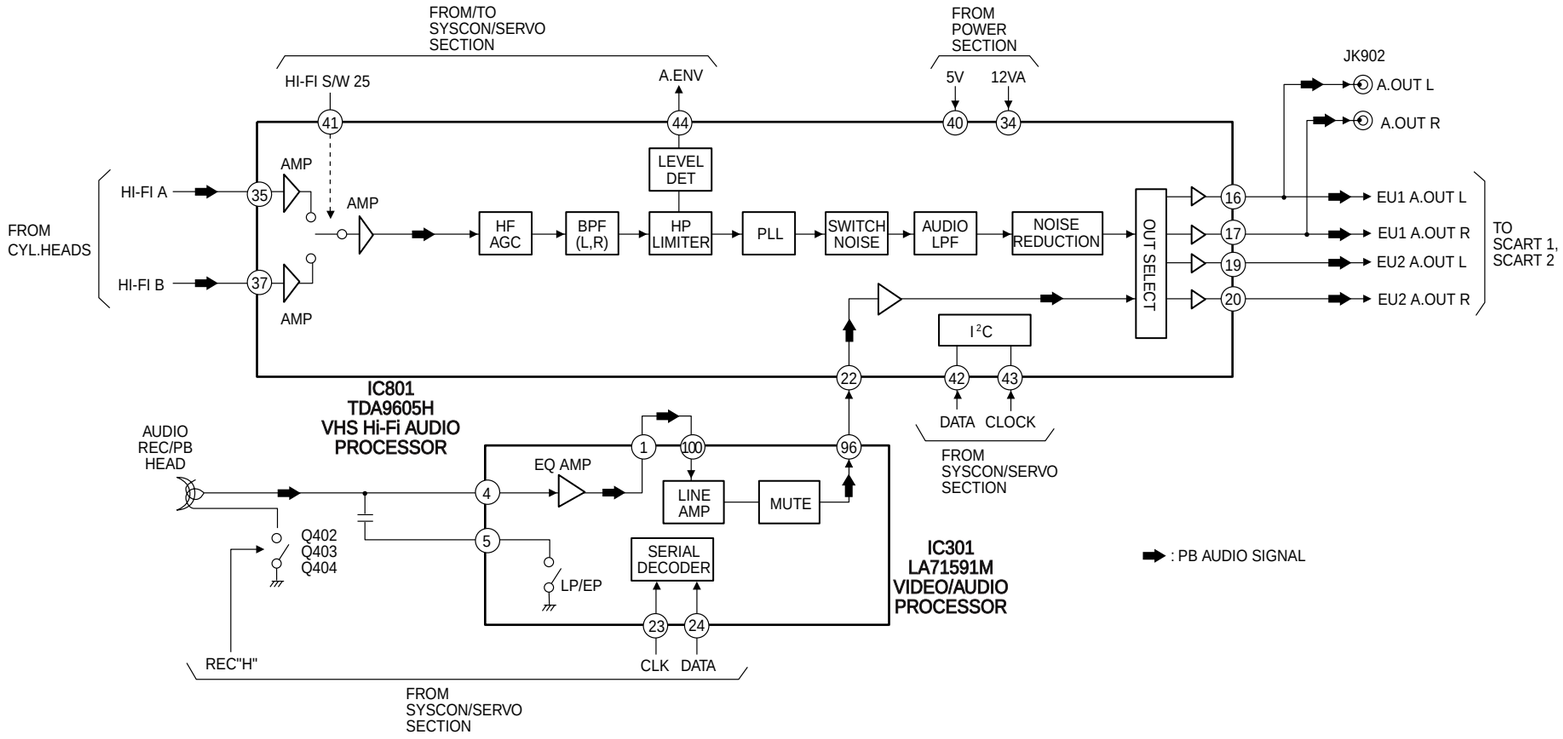
JK901 SCART2 — AV2 IN (DECODER)

L907 BEAD

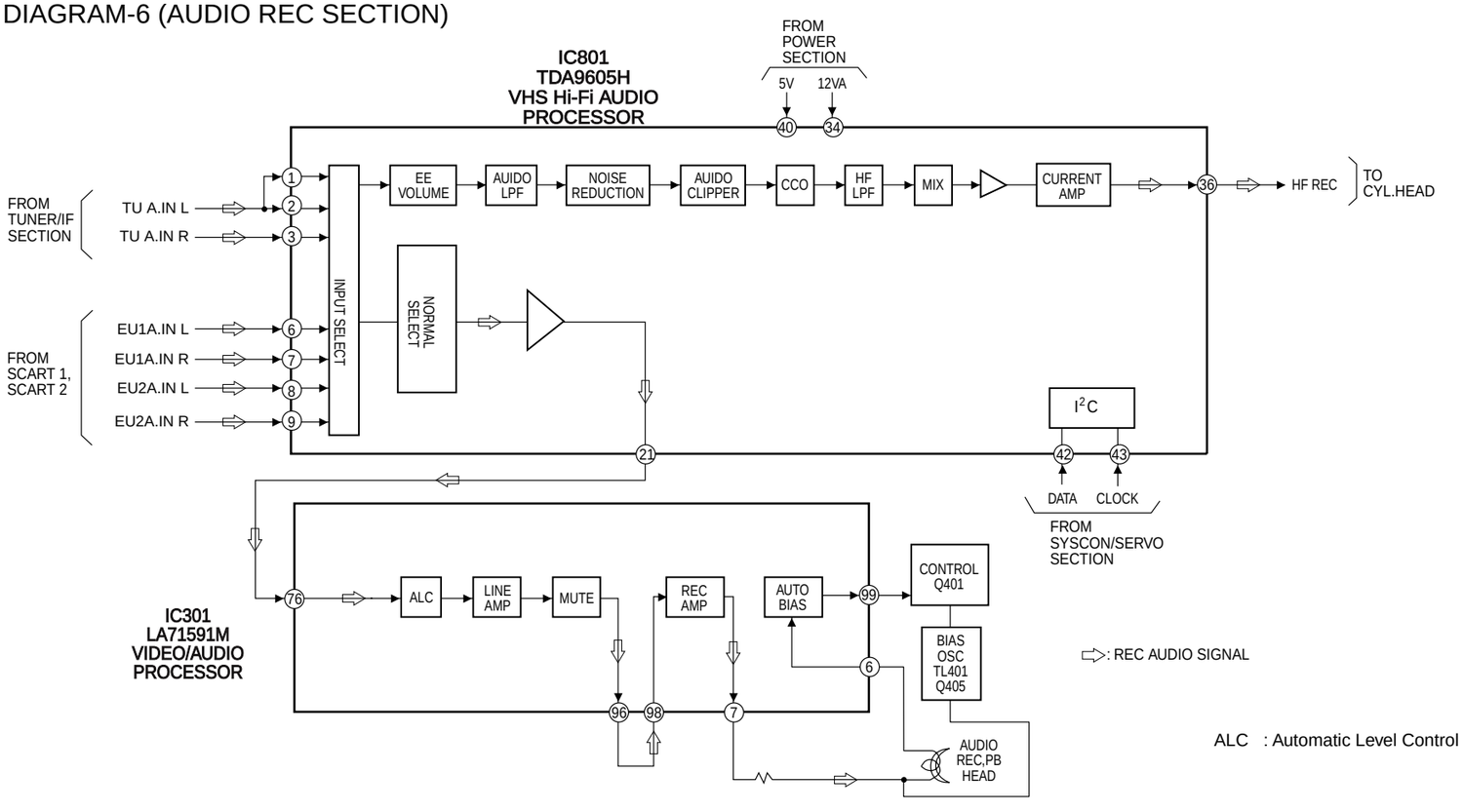
ZD805, ZD806

C+ DET "H" (7J), LV MT "L" (8J), LV MT "R" (9J) — To SYSCON/ SERVO SECTION

BLOCK DIAGRAM-5 (AUDIO PB SECTION)

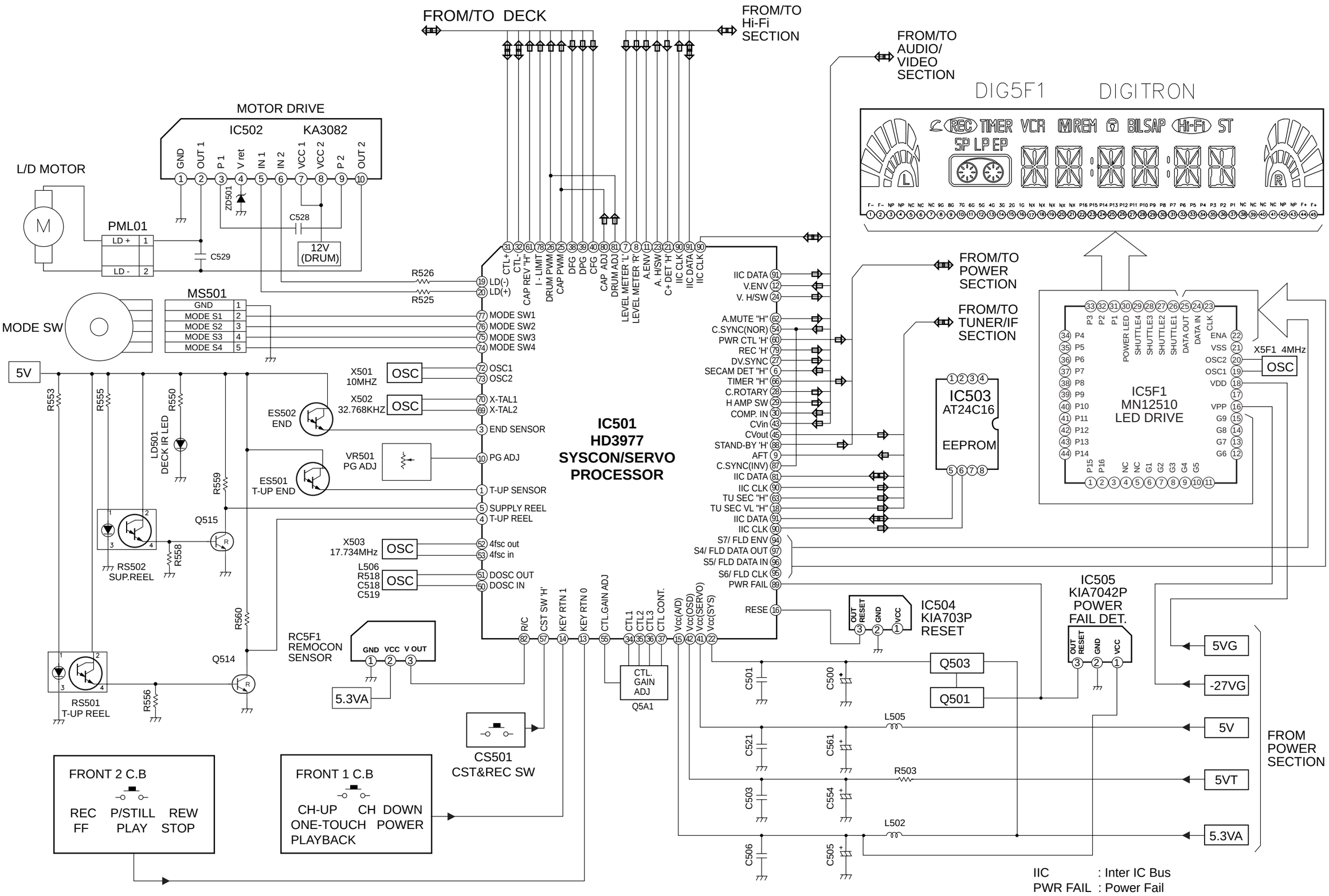


BLOCK DIAGRAM-6 (AUDIO REC SECTION)



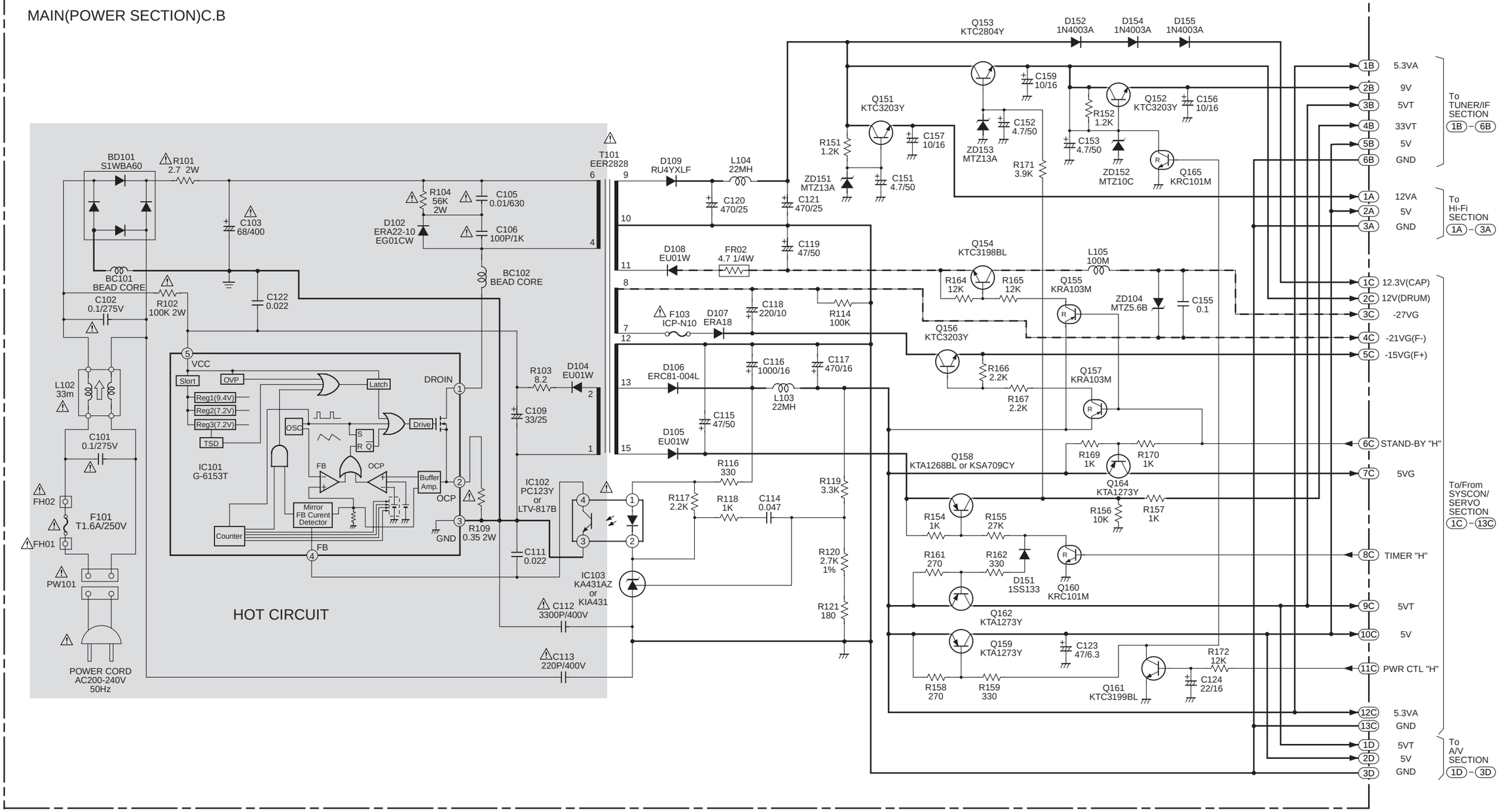
ALC : Automatic Level Control

BLOCK DIAGRAM-7 (SYSTEM CONTROL SECTION)


FROM/TO DECK
FROM/TO Hi-Fi SECTION
FROM/TO AUDIO/ VIDEO SECTION
FROM/TO POWER SECTION
FROM/TO TUNER/IF SECTION
DIG5F1 DIGITRON
MOTOR DRIVE
IC502 KA3082
GND OUT 1 P 1 V ret IN 1 IN 2 VCC 1 VCC 2 P 2 OUT 2
L/D MOTOR
PML01
LD + 1
LD - 2
C529
C528
12V (DRUM)
ZD501
MS501
GND 1
MODE S1 2
MODE S2 3
MODE S3 4
MODE S4 5
MODE SW
5V
R553
R555
R550
LD501 DECK IR LED
R559
R560
R558
R556
Q515
Q514
RS502 SUP.REEL
RS501 T-UP REEL
ES502 END
ES501 T-UP END
VR501 PG ADJ
X501 10MHZ
X502 32.768KHZ
X503 17.734MHz
L506 R518 C518 C519
OSC
R526
R525
RC5F1 REMOCON SENSOR
GND VCC V OUT
5.3VA
CS501 CST&REC SW
CTL.GAIN ADJ
Q5A1
IC501 HD3977 SYSCON/SERVO PROCESSOR
CTL+ CTL- CAP REV "H" I - LIMIT DRUM PWM CAP PWM DFG DPG CFG CAP ADJ DRUM ADJ LEVEL METER 'L' LEVEL METER 'R' A.ENV A. H/SW C+ DET "H" IIC CLK IIC DATA IIC CLK
LD(-) LD(+)
MODE SW1 MODE SW2 MODE SW3 MODE SW4
OSC1 OSC2
X-TAL1 X-TAL2
END SENSOR
PG ADJ
T-UP SENSOR
SUPPLY REEL
T-UP REEL
4fsc out 4fsc in
DOSC OUT DOSC IN
R/C CST SW 'H' KEY RTN 1 KEY RTN 0 CTL.GAIN ADJ CTL1 CTL2 CTL3 CTL CONT. Vcc(A/D) Vcc(OSD) Vcc(SERVO) Vcc(SYS)
IIC DATA V.ENV V. H/SW
A.MUTE "H" C.SYNC(NOR) PWR CTL 'H' REC 'H' DV.SYNC SECAM DET "H" TIMER "H" C.ROTARY H AMP SW COMP. IN CVin CVout STAND-BY 'H' AFT C.SYNC(INV) IIC DATA IIC CLK TU SEC "H" TU SEC VL "H" IIC DATA IIC CLK
S7/ FLD ENV S4/ FLD DATA OUT S5/ FLD DATA IN S6/ FLD CLK PWR FAIL
RESE
IC503 AT24C16 EEPROM
IC504 KIA703P RESET
OUT RESET GND VCC
IC505 KIA7042P POWER FAIL DET.
IC5F1 MN12510 LED DRIVE
P3 P2 P1 POWER LED SHUTTLE4 SHUTTLE3 SHUTTLE2 SHUTTLE1 DATA OUT DATA IN CLK
ENA VSS OSC2 OSC1 VDD VPP G9 G8 G7 G6
P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 NC NC G1 G2 G3 G4 G5
X5F1 4MHz
OSC
Q503
Q501
C501 C500 C521 C561 C503 C554 C506 C505
L505 L502
R503
5VG -27VG 5V 5VT 5.3VA
FROM POWER SECTION
FRONT 2 C.B
REC P/STILL REW
FF PLAY STOP
FRONT 1 C.B
CH-UP CH DOWN
ONE-TOUCH POWER
PLAYBACK
IIC : Inter IC Bus
PWR FAIL : Power Fail

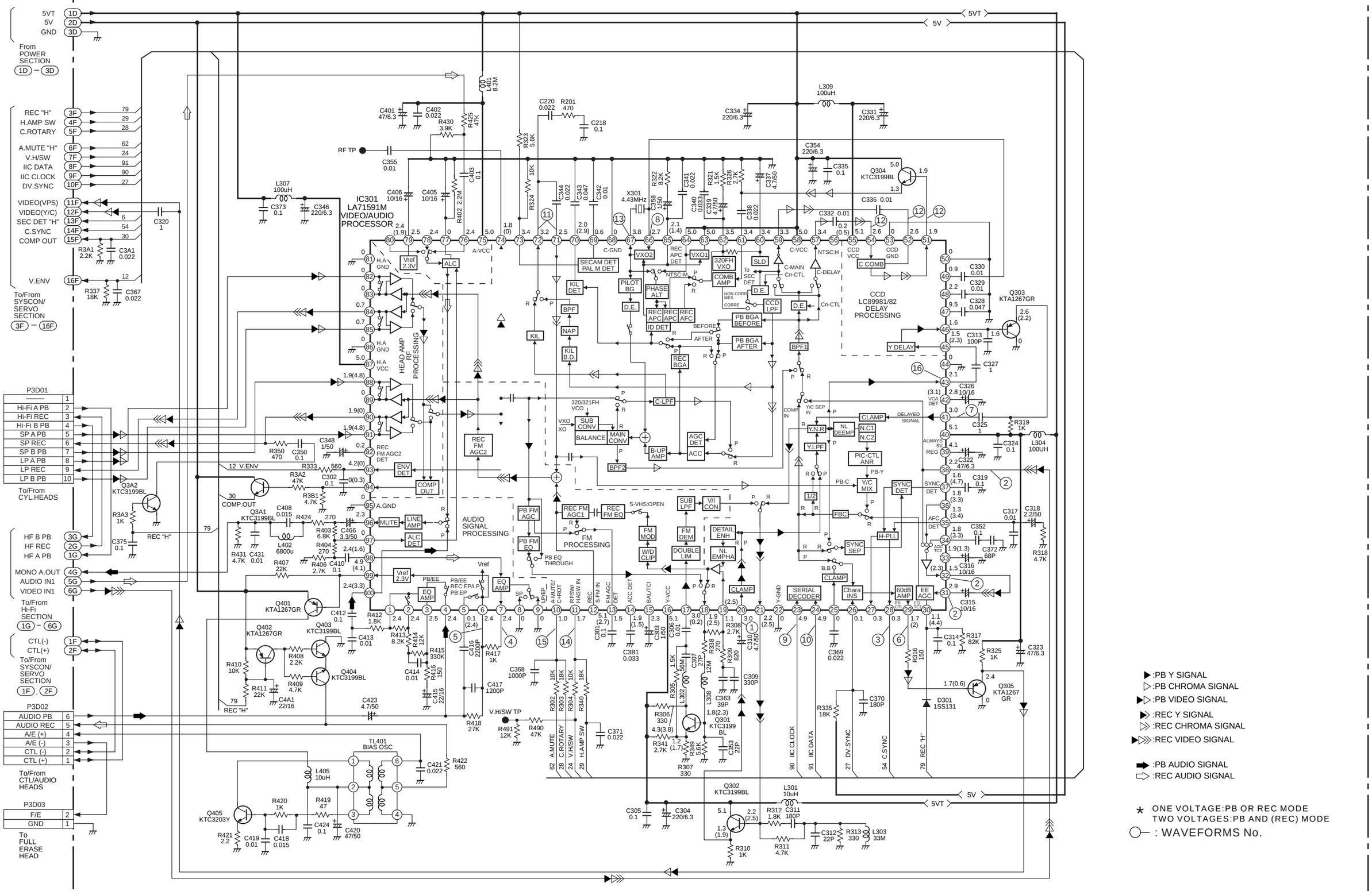
SCHEMATIC DIAGRAM-1 (POWER SECTION)

MAIN(POWER SECTION)C.B



SCHEMATIC DIAGRAM-2 (AUDIO/VIDEO SECTION)

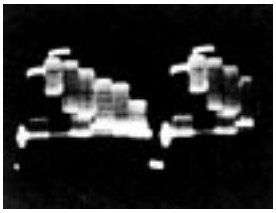
MAIN(AUDIO/VIDEO SECTION)C.B



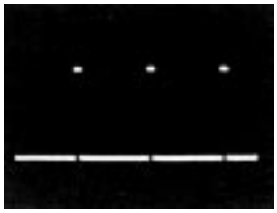
WAVEFORM-1 (VIDEO SECTION)

①

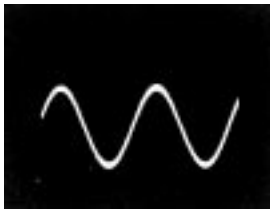
IC301 Pin ⑳
PBmode
2msec/500mvp-p

② 

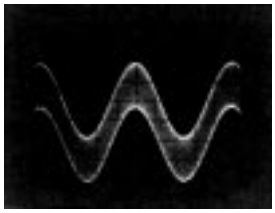
IC301 Pin ㊳, ㉜, ㉛
Video in
10µsec/1Vp-p

③ 

IC301 Pin ㉘
PB/REC mode
20µsec/4.2Vp-p

④ 

IC301 Pin ⑦
REC mode
2µsec/1.4Vp-p

⑤ 

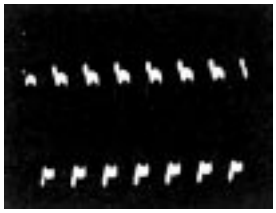
IC301 Pin ⑥
REC mode
2µsec/2.2Vp-p

⑥

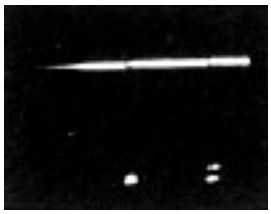
IC301 Pin ㉙
PB mode
10µsec/2.1Vp-p

⑦

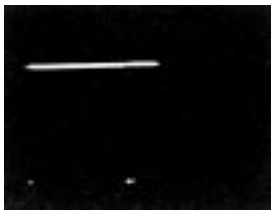
IC301 Pin ㊶
PB mode
10µsec/400mVp-p

⑧ 

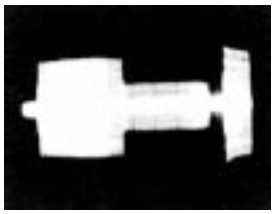
IC301 Pin ㊻
PB mode
0.2msec/600mVp-p

⑨ 

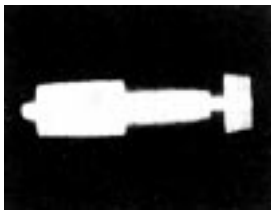
IC301 Pin ㉓
PB/REC mode
2msec/5Vp-p

⑩ 

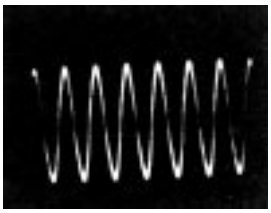
IC301 Pin ㉔
PB/REC mode
1msec/5Vp-p

⑪ 

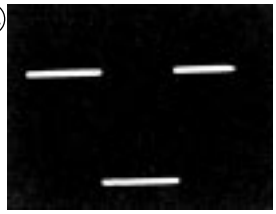
IC301 Pin ㉑, ㉒
REC mode
2msec/340mVp-p

⑫ 

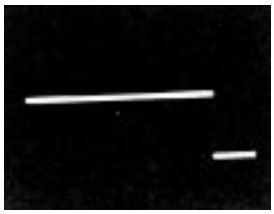
IC301 Pin ㊶, ㊷, ㊹
PB mode
2msec/300mVp-p

⑬ 

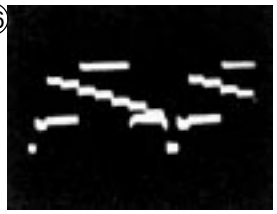
IC301 Pin ㊼
PB mode
0.2µsec/600mVp-p

⑭ 

IC301 Pin ⑪
PB mode
5msec/3.2Vp-p

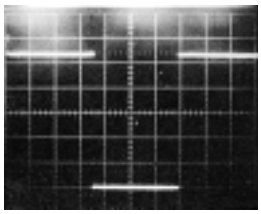
⑮ 

IC301 Pin ⑩
PB mode
2msec/1.8Vp-p

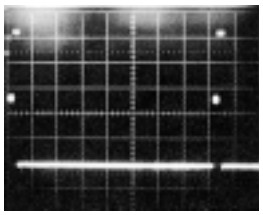
⑯ 

IC301 Pin ㊸
PB mode
10µsec/400mVp-p

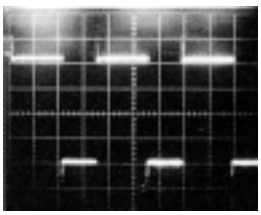
WAVEFORM-2 (SERVO/OSD SECTION)

① 

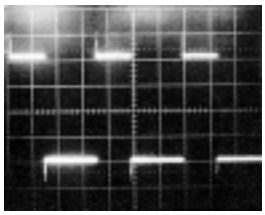
IC501 Pin ㉔
1V/5mS
REC/PB mdes
(V.H/SW)

② 

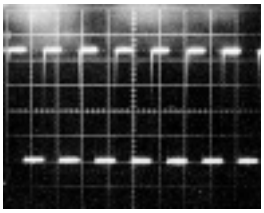
IC501 Pin ㉗
1V/2mS
QUE/REV modes
(D.V-SYNC)

③ 

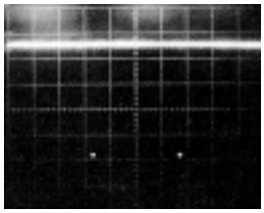
IC501 Pin ㉛
1V/10mS
REC mode
(CTL+)

④ 

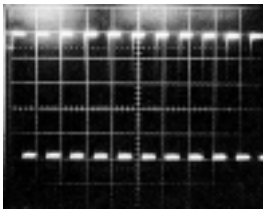
IC501Pin ㉜
1V/10mS
REC mode
(CTL–)

⑤ 

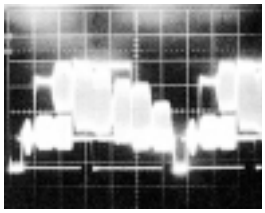
IC501 Pin ㊳
1V/1mS
REC/PB mode
(DFG)

⑥ 

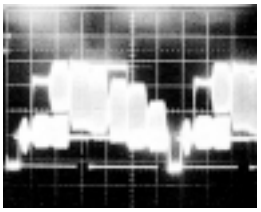
IC501 Pin ㊴
1V/10µS
REC/PB modes
(DPG)

⑦ 

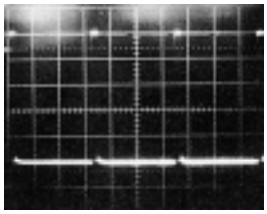
IC501 Pin ㊵
1V/1mS
REC/PB modes
(CFG)

⑧ 

IC501 Pin ㊸
100mV/10µS
EE/PB modes
(V-IN)

⑨ 

IC501 Pin ㊺
500mV/10µS
EE/PB modes
(V-OUT)

⑩ 

IC501Pin ㊹
1V/20µS
EE/PB modes
(C-SYNC)

SCHEMATIC DIAGRAM-3 (SYSCON/SERVO/OSD SECTION)

MAIN(SYSCON/SERVO SECTION)C.B

IC502
KA3082
MOTOR DRIVE

IC503
AT24C16
EEPROM

IC505
KIA7042P or KA7542Z

IC505
POWER
FAIL DET.

R/C5F1
(REMOCON SENSOR)

DIG5F1
9MT168GK or SVV09MM14 (DISPLAY)

IC501
HD3977RC17F or
GMS3977RAA57F
SYSCON/SERVO
PROCESSOR

IC5F1
MN12510
DISPLAY DRIVE

IC504
KIA7031P or
KA7531Z
RESET

PML01
LD+
LD-
To
LOADING
MOTOR

PMD01
D.CTL
M.GND
DFG
12V
PG
GND
5.1V
To/From
LOWER
DRUM C.B
PDM01

PMC01
GND
MOTOR GND
I.LIMIT
CAP.CONTROL
12V
CFG
CAP.REV "L"
5.1V
To/From
CAPSTAN
MOTOR C.B
PCM01

MS501
GND
MODE S1
MODE S2
MODE S3
MODE S4
From
MODE SW

RS501
GP1S566

RS502
GP1S566

LD501
DECK IR LED

ES501
ST5811-A,B
T-UP END

ES502
ST5811-A,B
SUP END

PG ADJ

Q514
KRC103M

Q515
KRC103M

Q5A1
KTC3199BL

Q5S2
KTC3199BL

Q503
KTA1267

Q501
KTC3199BL

D509
1SS133

D502
1SS133

ZD501
MTZ6.8C

ZD503
MTZ6.2B

ZD5F1
MTZ5.1B

X501
10MHz

X502
32.768KHz

X503
17.734MHz

CS501
CST/REC.SW

PMK01
GND
OTPB "H"
5VA
K.RTN 1
GND
To
FRONT 2 C.B
PKM01

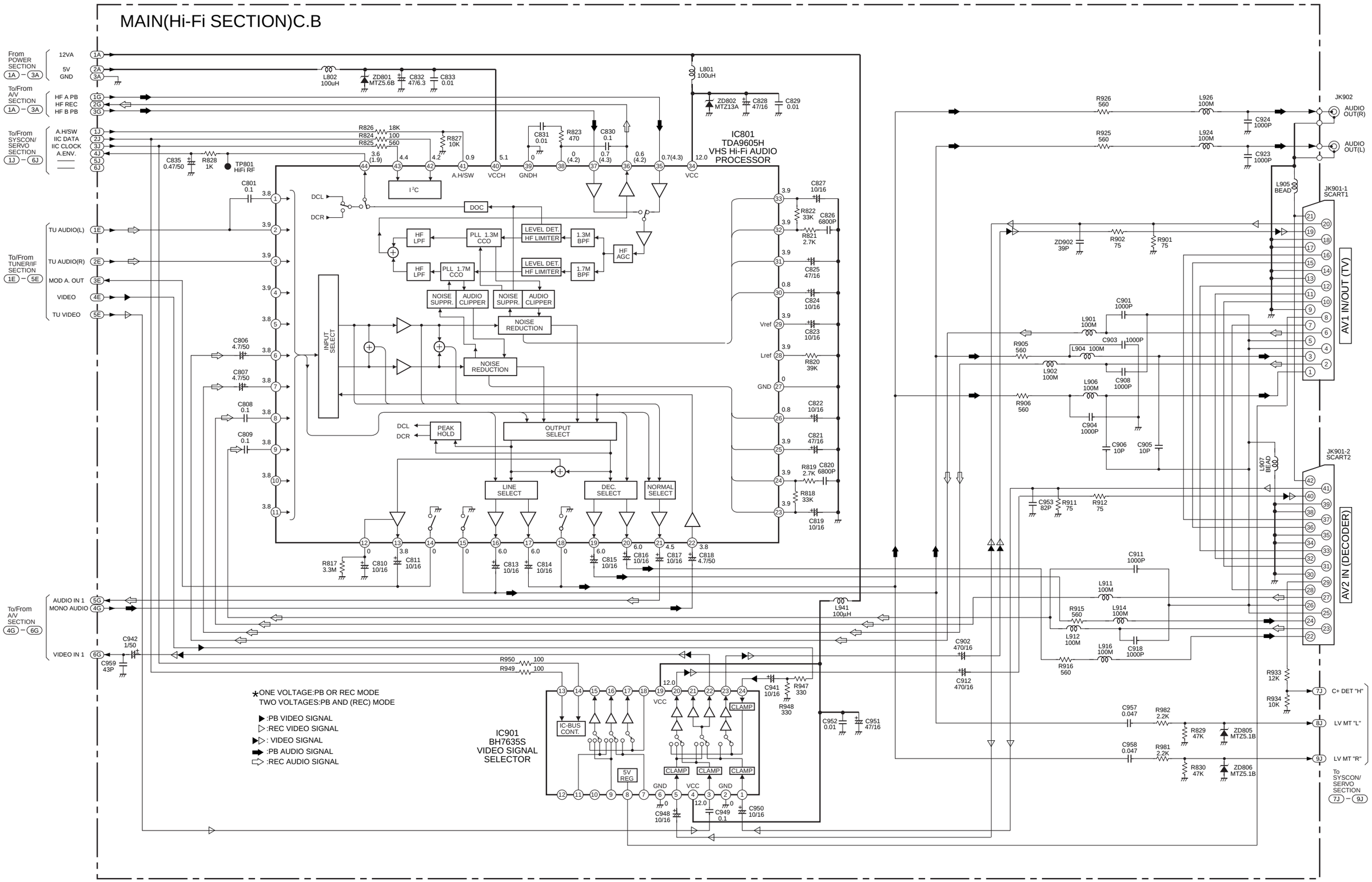
PMK02
5.3VA
GND
KEY RTN 0
To
FRONT 1 C.B
PKM02

OSD VIDEO
IIC CLK
IIC DATA
VIDEO(VPS)
IIC CLOCKAFT
To/From
TUNER/IF
SECTION
A.H/SW
IIC DATA
IIC CLK
A.ENV
SCART "H"
16:9 "H"
C+ DET "H"
LEV MET "L"
LEV MET "R"
To/From
Hi-Fi
SECTION
CTL(-)
CTL(+)
REC "H"
H.AMP SW
C.ROTARY
A.MUTE "H"
V.H/SW
IIC DATA
IIC CLK
DV.SYNC
VIDEO(VPS)
VIDEO(Y/C)
SEC DET "H"
C.SYNC
COMP IN
V.ENV
To/From
A/V
SECTION
12.3V(CAP)
12V(DRUM)
-27VG
-21VG(F-)
-15VG(F+)
STAND-BY "H"
5VG
TIMER "H"
5VT
5V
PWR CTL "H"
5.3VA
GND
To/From
POWER
SECTION

* ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
◯— : WAVEFORMS No.

SCHEMATIC DIAGRAM-4 (Hi-Fi SECTION)

MAIN(Hi-Fi SECTION)C.B



MAIN(TUNER/IF SECTION)C.B

From POWER SECTION (1B – 6B): 5.3VA (1B), 9V (2B), 5VT (3B), 33VT (4B), 5V (5B), GND (6B)

To Hi_Fi SECTION (1E – 5E): TU AUDIO(L) (1E), TU AUDIO(R) (2E), MOD A. IN (3E), VIDEO (4E), TU VIDEO (5E)

To/From SYSCON/ SERVO SECTION (1H – 8H): OSD VIDEO (1H), IIC CLOCK (2H), IIC DATA (3H), VIDEO(VPS) (4H), (5H), (6H), IIC CLOCK (7H), AFT (8H)

PM702

GND	1
GND	2
GND	3
TU AUDIO(R)	4
GND	5
TU AUDIO(L)	6
9V	7
IIC CLOCK	8
IIC DATA	9

To NICAM C.B P7M52

PM701

5V	1
MONO AUDIO	2
GND	3
SIF	4
GND	5
GND	6

To NICAM C.B P7M51

IC7V1 LC74793 VPS

VDD1, RST, V.Sync Sep., Timing Generator, Sync Detect, Sync Sep/ Data Sucer, IIC BUS Interface, AFC (VCO), VDD2, Data Latch, Data Acousition, VSS1, NC, VSS2

X7V1 17.734476MHz

L7V1 100uH, C7V1 47/16, C7V2 1, C7V7 1/50, C7V8 1/50, R7V6 5.6K, C7V3 12P, C7V4 12P, C7V5 0.056, C7V6 4.7/50, R7V5 10K, R7V4 2.2K

L702 10µH, C705 0.01, C704 47/6.3

L701 100uH, C702 10/16, R704 470, Q701 KTA1267GR, C7M2 47/16, R7M3 1K

L705 10uH, R7M5 220, C7M3 43P, C713 47/6.3, C714 0.01

L703 10uH, C706 470/16, C707 0.01, C710 43P, C703 4.7/50, R706 220, R707 100

C701 4.7/50, ZD701 MTZ33B

C712 5.6P, L704 8.2M

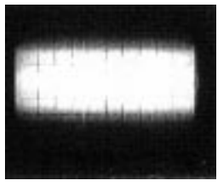
TU701

AERIAL, RF OUT

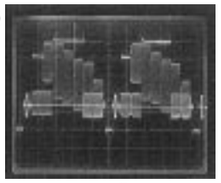
1 BB, 2 AUDIO, 3 SDA, 4 MB, 5 SCL, 6 VIDEO, 7 MD TU, 8 RF AGC, 9 NC, 10 AS, 11 SCL, 12 SDA, 13 B+, 14 B+, 15 NC, 16 TU, 17 TP, 18 IF, 21 AUDIO, 22 SIF, 23 AFT, 24 VIDEO, 25 NC

▶▷:PB VIDEO SIGNAL ▶▷⋙:REC VIDEO SIGNAL ➡:PB AUDIO SIGNAL ⇨:REC AUDIO SIGNAL ◯— : WAVEFORMS No.

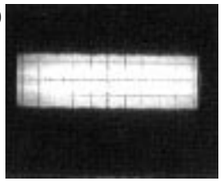
WAVEFORM-3

① 

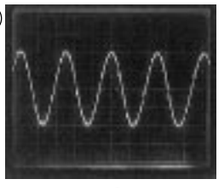
TU701 Pin ⑱
(IF Signal)
0.5msec/200mVp-p

② 

TU701 Pin ㉔
(Video Signal)
10µsec/1.0Vp-p

③ 

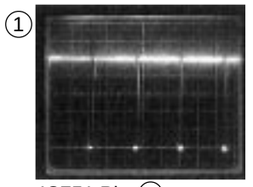
TU701 Pin ㉒
(SIF Signal)
50µsec/200mVp-p

④ 

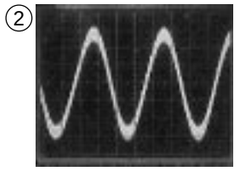
TU701 Pin ㉑
(Audio Signal)
0.5msec/1.35Vp-p

SCHEMATIC DIAGRAM-6 (NICAM, A2 SECTION)

WAVEFORM-4

① 

IC751 Pin 47
(IF Signal)
50µsec/140mVp-p

② 

IC751Pin 30,31
0.5µsec/1.24Vp-p

NICAM C.B

P7M51

5V	1
MONO AUDIO	2
GND	3
SIF	4
GND	5
GND	6

To MAIN C.B
(TUNER SECTION)
PM701

P7M52

GND	1
GND	2
GND	3
TU AUDIO (R)	4
GND	5
TU AUDIO (L)	6
9V	7
IIC CLOCK	8
IIC DATA	9

To MAIN C.B
(TUNER SECTION)
PM702

D751 1N4003A, L752 100uH, L753 100u, C765 47/16, C766 0.01, C760 47/16, C759 0.01

C772 0.0039, R755 680, L755 6800uH, C756 0.01, R757 2.2K, C776 10/16, C758 0.01

C771 0.0039, R754 680, L754 6800uH, C755 0.01, R756 2.2K, C775 10/16, C757 0.01

C773 10/16, C774 10/16

C770 3P, C769 3P, C768 56P, C767 56P, X751 18.432MHz, C764 0.1, C763 10/16, C762 0.1, C761 3.3/50

	OUT	IN	TESTEN	ANA IN2	ANA IN-	ANA IN1	AVSUP	AGND	MONO IN	VREF TOP	SC1 IN R	SC1 IN L	SC2 IN R	SC2 IN L	SC3 IN R	SC3 IN L	AGNDC	AGND	CAPL M	A8VSUP	CAPL A	SC1 OUT L	SC1 OUT R	VREF1	SC2 OUT L	SC2 OUT R
	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27
	2.2	2.3	0	0	1.6	1.6	5.1	0	2.4	2.6	3.7	3.7	3.7	3.7	0	0	3.7	0	7.6	8.6	0	3.7	3.7	0	0	0

AUDIO PLL, TIMING RECOVERY, DECIMATION, SHAPING FILTER, GEN1, MIXER, GEN2, A/D, LEVEL CTL, INPUT SELECT, A/D, I/P SELECT, DEEMPHASIS, 7-LINE, OUTPUT SELECT, DAC, DAC

PD, DQPSK DECODER, FRAME SYNC, DEINTERLEAVING NICAM DECODING, S-BUS INTERFACE, MATRIX, OVERSAM FILTER, DAC VOL

PILOT DET, FM BLOCK, IIC BUS INTERFACE, IIS1 BUS INTERFACE, IIS2 BUS INTERFACE, DAC VOL, DAC VOL, OVERSAM FILTER, DAC VOL

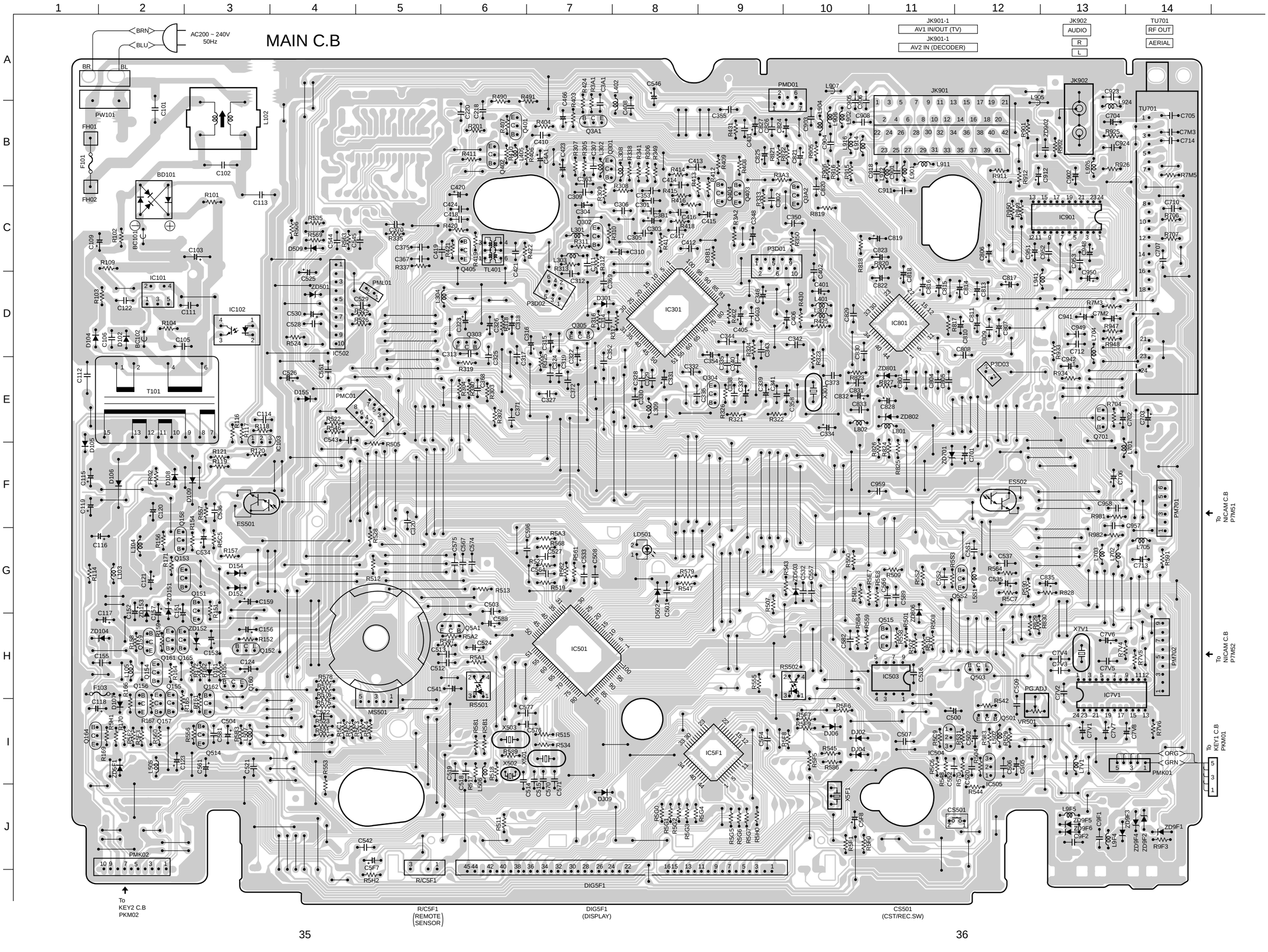
IC751
MSP3407D
NAICAM,A2

	NC	AUD CLK	C CTL 1	C CTL 0	ADR SEL	STANDBYQ	IIC CLK	IIC DATA	IIS CL	IIS WS	IIS DA OUT	IIS DA IN	ADR DA	ADR WS	ADR CLK	DVSSUP	DGND	IIS DA IN2	NC	RESETQ	DACA R	DACA L	VREF2	DACM R	DACM L	DACM SUB
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	0.2	2.3	0	0	0	5.1	5.2	5.2	0.2	0.2	0.2	0	0.2	0.2	0.2	5.1	0	0	0	5.1	0	0	0	0.1	0.1	0

R752 100, R753 100, C753 47/16, C754 0.01, R758 39K, C752 47/16, R751 1K

* VOLTAGE:PB OR REC MODE
○— : WAVEFORMS No.
⇨ :AUDIO REC SIGNAL

WIRING-1 (MAIN C.B SECTION)


MAIN C.B
AC200 ~ 240V
50Hz
BRN
BLU
BR
BL
PW101
FH01
FH02
F101
BD101
L102
C101
C102
R101
C113
BC101
R102
C109
R109
C103
IC101
C122
C111
R103
R104
C105
D104
C106
D102
BC102
IC102
T101
C112
D105
C115
D106
FR02
D108
D109
C119
C120
C116
L104
R156
Q158
R154
R157
C534
R5C5
Q153
R171
ZD151
D154
D152
C159
Q151
C121
L103
R114
C117
C152
ZD153
C157
C151
R151
C156
ZD152
R152
Q152
ZD104
C155
C153
Q161
Q165
Q156
Q155
R167
Q157
C124
Q160
F103
C118
D107
R166
R165
R164
R163
R162
R161
R160
R155
R5H1
R170
R5F2
R5F3
R5F4
R5F5
R5F6
R5F7
R5F8
R5F9
R5G1
R5G2
R5G3
R5G4
R5G5
R5G6
R5G7
R5H0
R5H2
R5F1
R5G0
R169
Z5F1
Q164
L505
C523
C561
Q514
C521
R553
C542
C5F7
PMK02
To
KEY2 C.B
PKM02
R116
R117
R118
C114
IC103
R121
R119
R120
C114
ES501
R528
C532
C575
C567
C574
C596
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D7G2
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D7G4
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D7G7
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D7H1
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D7H3
D7H4
D7H5
D7H6
D7H7
D7H8
D7H9
D7I0
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D7I2
D7I3
D7I4
D7I5
D7I6
D7I7
D7I8
D7I9
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D7J1
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D7J6
D7J7
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D7O5
D7O6
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D7P1
D7P2
D7P3
D7P4
D7P5
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D7P7
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D7Q4
D7Q5
D7Q6
D7Q7
D7Q8
D7Q9
D7R0
D7R1
D7R2
D7R3
D7R4
D7R5
D7R6
D7R7
D7R8
D7R9
D7S0
D7S1
D7S2
D7S3
D7S4
D7S5
D7S6
D7S7
D7S8
D7S9
D7T0
D7T1
D7T2
D7T3
D7T4
D7T5
D7T6
D7T7
D7T8
D7T9
D7U0
D7U1
D7U2
D7U3
D7U4
D7U5
D7U6
D7U7
D7U8
D7U9
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D7V1
D7V2
D7V3
D7V4
D7V5
D7V6
D7V7
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D7V9
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D7W1
D7W2
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D7W4
D7W5
D7W6
D7W7
D7W8
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D7X2
D7X3
D7X4
D7X5
D7X6
D7X7
D7X8
D7X9
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D7Y1
D7Y2
D7Y3
D7Y4
D7Y5
D7Y6
D7Y7
D7Y8
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D7Z3
D7Z4
D7Z5
D7Z6
D7Z7
D7Z8
D7Z9
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D8A2
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D8A6
D8A7
D8A8
D8A9
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D8B2
D8B3
D8B4
D8B5
D8B6
D8B7
D8B8
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D8C1
D8C2
D8C3
D8C4
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D8C7
D8C8
D8C9
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D8D2
D8D3
D8D4
D8D5
D8D6
D8D7
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D8E2
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D8E6
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D8G4
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D8G8
D8G9
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D8H1
D8H2
D8H3
D8H4
D8H5
D8H6
D8H7
D8H8
D8H9
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D8I1
D8I2
D8I3
D8I4
D8I5
D8I6
D8I7
D8I8
D8I9
D8J0
D8J1
D8J2
D8J3
D8J4
D8J5
D8J6
D8J7
D8J8
D8J9
D8K0
D8K1
D8K2
D8K3
D8K4
D8K5
D8K6
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D8K8
D8K9
D8L0
D8L1
D8L2
D8L3
D8L4
D8L5
D8L6
D8L7
D8L8
D8L9
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D8M1
D8M2
D8M3
D8M4
D8M5
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D8M7
D8M8
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D8N0
D8N1
D8N2
D8N3
D8N4
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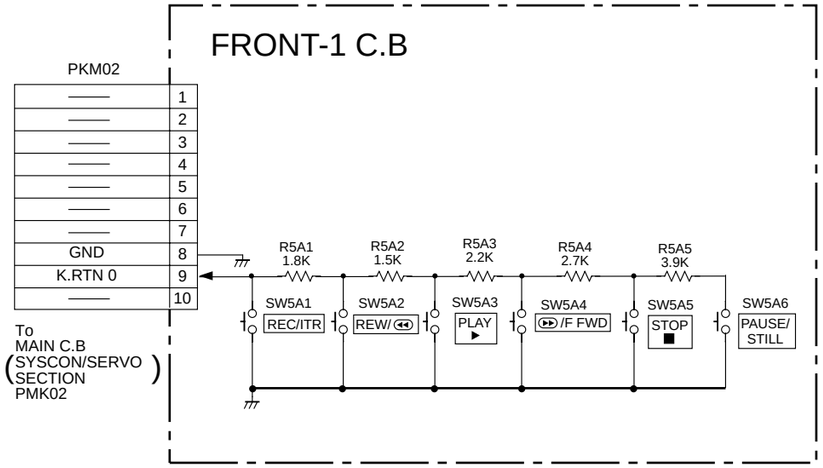
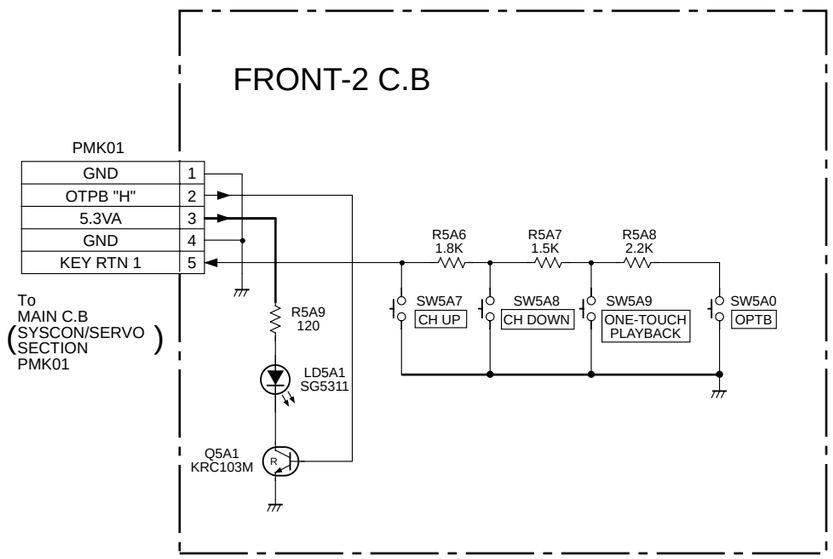
D8N6
D8N7
D8N8
D8N9
D8O0
D8O1
D8O2
D8O3
D8O4
D8O5
D8O6
D8O7
D8O8
D8O9
D8P0
D8P1
D8P2

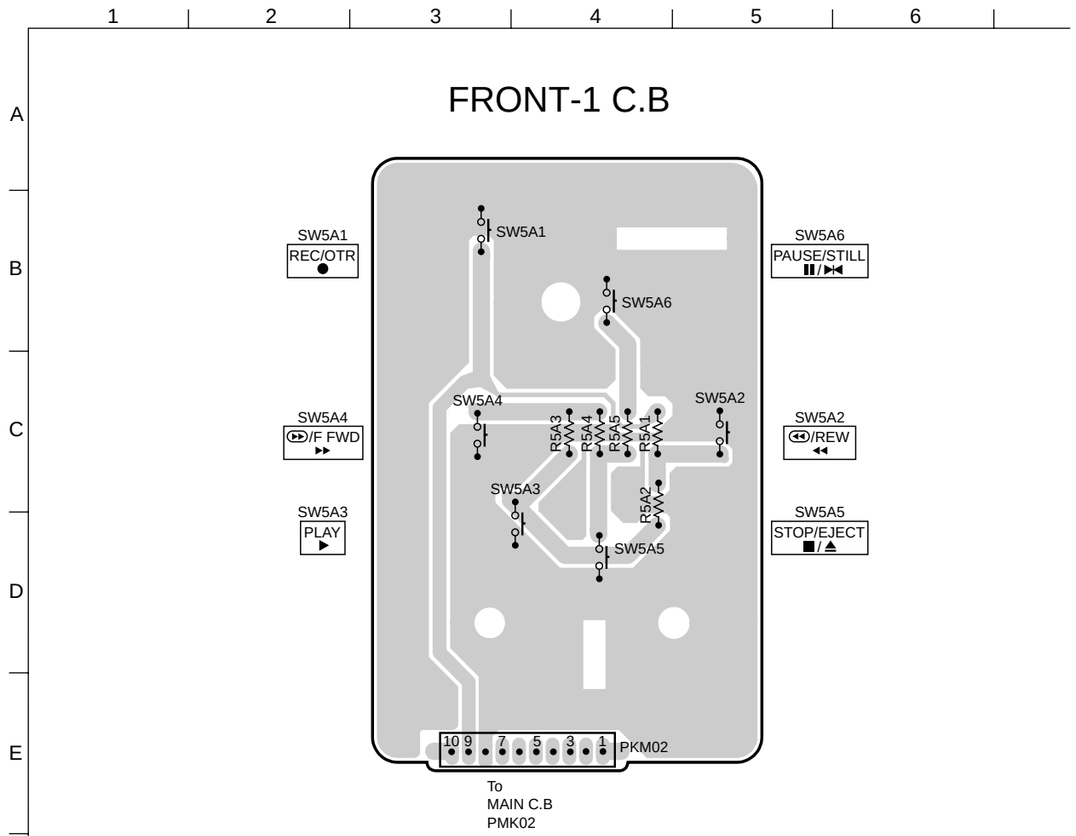
SCHEMATIC DIAGRAM-7 (FRONT-1 C.B SECTION)



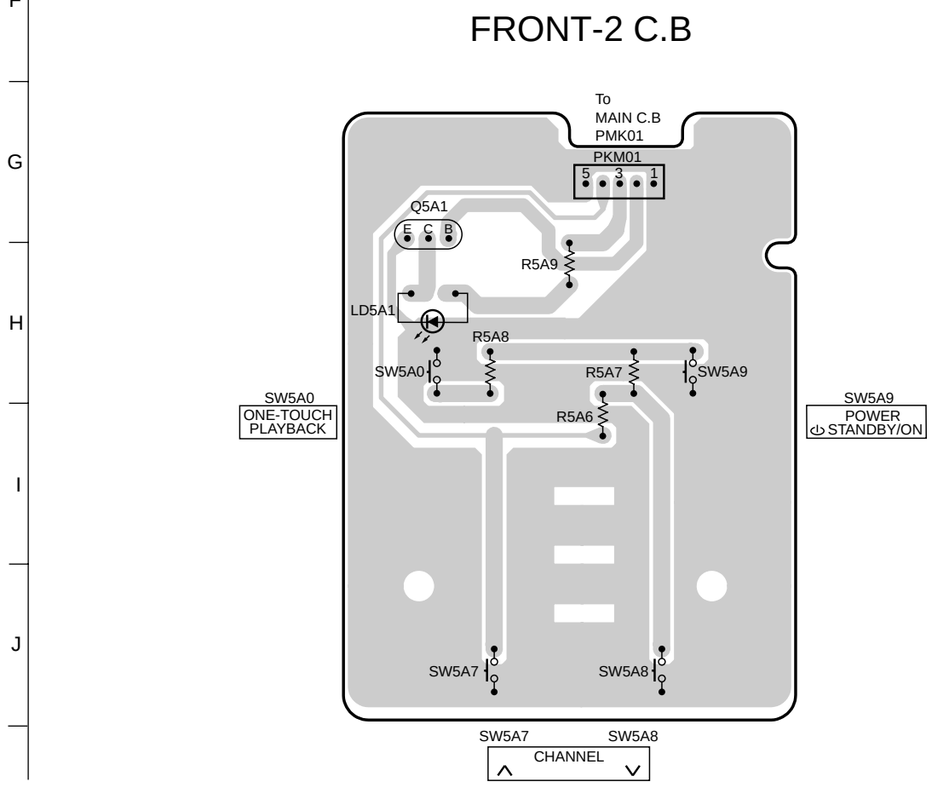
SCHEMATIC DIAGRAM-8 (FRONT-2 C.B SECTION)



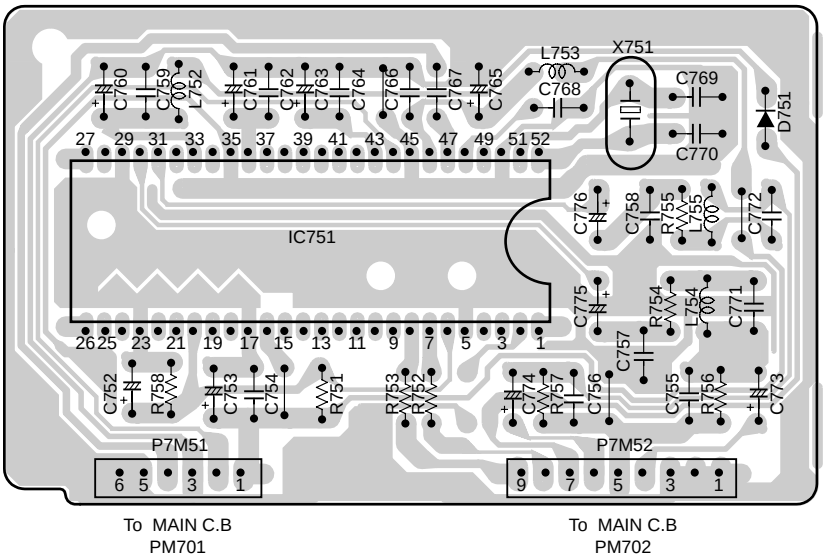
WIRING-2 (FRONT-1 C.B)



WIRING-3 (FRONT-2 C.B)



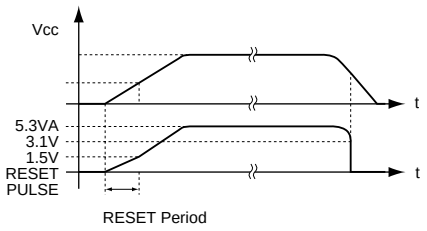
NICAM C.B


C760
C759
L752
C761
C762
C763
C764
C766
C767
C765
L753
C768
X751
C769
C770
D751
27 29 31 33 35 37 39 41 43 45 47 49 51 52
IC751
C776
C758
R755
L755
C772
C775
R754
L754
C771
26 25 23 21 19 17 15 13 11 9 7 5 3 1
C757
C752
R758
C753
C754
R751
R753
R752
C774
R757
C756
C755
R756
C773
P7M51
6 5 3 1
P7M52
9 7 5 3 1
To MAIN C.B
PM701
To MAIN C.B
PM702

IC DESCRIPTION

IC, HD3977RC17F

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>TAKE UP
SENSOR</td><td>I</td><td>End sensor to detect the tape’s terminal (Lead taps section).
If “H” is detected signal in the REW, REV modes, the mechanism stops and ejects the cassette automatically.</td></tr>
<tr><td>2</td><td>VSS (A/D)</td><td>–</td><td>GND</td></tr>
<tr><td>3</td><td>END
SENSOR</td><td>I</td><td>End sensor to detect tape’s terminal (Lead tape section).
If “H” signal is detected in the FF mode, then REW mode will occur automatically.</td></tr>
<tr><td>4</td><td>TAKE UP REEL</td><td>I</td><td>1. When the tape is transporting. Reel pulses are input.
2. If the tape is transporting and take-up reel pulses are not input during regular time, the unit stops at STOP point automatically.
<table>
<tr><th>Each operating mode</th><th>Sec</th></tr>
<tr><td>PLAY, REC</td><td>SP=3 EP/LP=6</td></tr>
<tr><td>FF, (REW)</td><td>2</td></tr>
<tr><td>CUE, (REV)</td><td>1</td></tr>
</table>
3. Distinguishes the tape type, counts the tape remaining and reduces the tape speed at the end of FF/REW modes.</td></tr>
<tr><td>5</td><td>SUPPLY REEL</td><td>I</td><td>1. When the tape is transporting, Reel pulses are input.
2. Distinguishes the tape type, counts the tape remaining and reduces the tape speed at the end of FF/REW modes.
3. If supply reel pulses are not detected, FF/REW mode is not operating normally. And the unit stops at stop point automatically. (Refer to table of pin 17.)</td></tr>
<tr><td>6</td><td>SED DET “H”</td><td>I</td><td>System detect for B/G or SECAM in VV/EE mode. (from SECAM I.C)</td></tr>
<tr><td>7</td><td>NC “L”</td><td>–</td><td>Not connect</td></tr>
<tr><td>8</td><td>NC “R”</td><td>–</td><td>Not connect</td></tr>
<tr><td>9</td><td>AFT</td><td>I</td><td>Port to detect AFT (+)’s state during tuning. When more than 4V, is detected by AFT (+) detector.
Detects AFT (–)’s state during tuning. When less than 0.96V, is detected by AFT (–) detector.</td></tr>
<tr><td>10</td><td>PG ADJ</td><td>I</td><td>A DC bias level set by VR501 determines the pulse width of PG M.M for H. S/W 30 switching interval.</td></tr>
<tr><td>11</td><td>NC</td><td>–</td><td>Not connect.</td></tr>
<tr><td>12</td><td>V.ENV</td><td>I</td><td>1. Reference input signal to perform auto tracking mode.
Video envelope (F/F) signal is input through LPF.
2. Perform auto tracking mode by sampling video envelope signal which is input during a period of head switching and changing servo tracking data to obtain maximum value.
Note : When the DC level of the envelope is at its maximum, it is considered tracking properly.</td></tr>
<tr><td>13</td><td>KEY RTN 0</td><td>I</td><td>KEY RTN 0</td></tr>
</table>

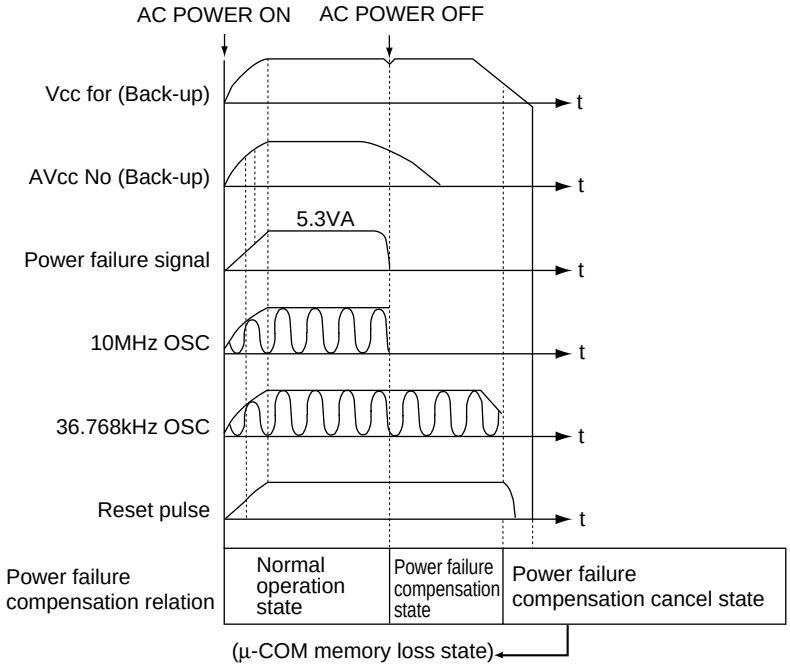
<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>14</td><td>KEY RTN 1</td><td>I</td><td>
<table>
<tr><th>No.</th><th>KEY NAME</th><th>A/D RANGE</th></tr>
<tr><td>1</td><td>SP/EP</td><td>0.0V ~ 0.45V</td></tr>
<tr><td>2</td><td>CH UP</td><td>0.46V ~ 0.96V</td></tr>
<tr><td>3</td><td>CH DOWN</td><td>0.97V ~ 1.47V</td></tr>
<tr><td>4</td><td>STOP/EJECT</td><td>1.48V ~ 1.97V</td></tr>
<tr><td>5</td><td>REC/ITR</td><td>1.99V ~ 2.48V</td></tr>
</table>
KEY RTN1
<table>
<tr><th>No.</th><th>KEY NAME</th><th>A/D RANGE</th></tr>
<tr><td>1</td><td>PAUSE</td><td>0.0V ~ 0.45V</td></tr>
<tr><td>2</td><td>FF</td><td>0.46V ~ 0.96V</td></tr>
<tr><td>3</td><td>REW</td><td>0.97V ~ 1.47V</td></tr>
<tr><td>4</td><td>PLAY</td><td>1.48V ~ 1.97V</td></tr>
<tr><td>5</td><td>POWER</td><td>1.99V ~ 2.48V</td></tr>
</table>
1. Input detector port of A/D input key. Samples 256 steps with AVcc in the center and confirms which key is pressed by the input voltage.
2. Key voltage table.
3. Excluding above item’s key sfter receiving, detecting and amplifying the remocon Data from the remocon receiver (RCSF1), decodes input signals from µ-COM (pin 82), performs its key operation.
</td></tr>
<tr><td>15</td><td>VCC(A/D)</td><td>–</td><td>A/D Vcc.</td></tr>
<tr><td>16</td><td>RESET</td><td>I</td><td>1. Initially 5.3 VA is applied to Vcc pin 22 of µ-COM.
This pulses is applied to clear the RAM inside the µ-COM and to reset programs to 0000H in ROM.
2. Reset timing pulse.
 
</td></tr>
<tr><td>17</td><td>NC</td><td>–</td><td>Not connect</td></tr>
<tr><td>18</td><td>TUNER SECAM VL“H”</td><td>O</td><td>Now TUNING BAND is SECAM VHF-L. (to TUNER)</td></tr>
<tr><td>19</td><td>LD (–)</td><td rowspan="2">O</td><td rowspan="2">1. Output signal to IC502 for control of the loading motor’s direction of rotation.
2. Control table of loading motor’s driving direction.
<table>
<tr><th>Pin 19</th><th>Pin 20</th><th>Rotation of Loading Motor</th></tr>
<tr><td>H</td><td>H</td><td>Brake Mode.</td></tr>
<tr><td>H</td><td>L</td><td>Reverse Direction.</td></tr>
<tr><td>L</td><td>H</td><td>Forward Direction.</td></tr>
</table></td></tr>
<tr><td>20</td><td>LD (+)</td></tr>
<tr><td>21</td><td>C+DET “H”</td><td>I</td><td>Now input signal is CANAL/PREMIER. (from SCART 2)</td></tr>
</table>

Pin No.	Pin Name	I/O	Description
22	Vcc (SYS)	–	SYSCON Vcc.
23	A.H.S/W 30	O	Not connect
24	V.H.S/W	O	Pulses output for switching video head A and B. - Produces PG M.M pulses internally by using inputted DPG, DFG pulses to pin 38, 39. - Produces video head switching 30 Hz pulses by sychronizing at edge point of first PG. M.M.(PG monostable multivibratior) - Produces audio head switching 30 Hz pulses by synchronizing at edge point of second PG.M.M.
25	CAPSTAN PWM	O	- Output pulses (PWM waveform) for controlling capstan motor speed and phase; control feedback voltage which is inputted to the capstan motor driver IC. - Output pulses (PWM waveform) for controlling capstan motor stop and drive during slow mode.
26	DRUM PWM	O	Output pulses (PWM waveform) for controlling drum motor speed and phase; control feedback voltage which is inputted to the drum motor driver IC.
27	D.V. SYNC.	O	Provides an output sync signal to prevent the picture from rolling upward or downward, when the video track is not being scanned in the search mode.
28	COLOR ROTARY	O	A pulse to control phase of color at Y/C circuit.
29	HEAD AMP S/W	O	Apulse for switching the HEAD SP and EP on the DRUM.
30	COMP IN	I	A reference signal for switching video head (SPA, SPB, EPA, EPB) on the drum in search the mode.
31	CTL (+)	I/O	CTL pulse is outputted at recording, CTL pulse is inputted at playback. Functions which control Capstan motor phase at playback, check tape speed, Viss and Real time counter are performed by using CTL pulse (input/output).
32	CTL (–)		
33	Vss (SERVO)	–	Servo circuit GND in the μ-COM.
34	CTL 1	I/O	Port for gain (Amp) control of CTL pulse during recording and playback.
35	CTL 2		
36	CTL 3		
37	CTL OUT		
38	D.FG	I	D.FG pulse input according to rotation of drum motor. Produces Audio/Video Head S/W 30Hz by using these pulses. And it is used as a comparison signal for speed control of the drum motor.
39	D.PG	I	One D.PG pulse is generated for each rotation the drum motor and inputted to μ-COM. When producing Head S/W pulses, D.PG pulse is used as reference point, and it is used as comparision signal when controlling drum motor phase.
40	C.FG	I	C.FG pulses are generated by the rotating capstan motor and are inputted to μ-COM. When checking tape speed and controlling. The capstan motor phase, These CFG pulses are used as comparison signal.
41	Vcc (SERVO)	I	Vcc for servo circuit in the μ-COM.
42	Vcc (OSD)	I	Vcc for OSD circuit in the μ-COM.
43	CV IN	I	When the OSD display function is activated both video and text are present, when in the EE or PB modes.

Pin No.	Pin Name	I/O	Description
44	Vref (OSD)	–	GND.
45	CV OUT	O	The video signal is output to the RF modulator and line output jack.
46	CHAR BIAS	–	GND.
47	AFC LPF	I	Horizontal sync is used to lock the OSD.
48	AFC OSC		(Reduce Jitter)
49	Vss (OSD)	–	GND.
50	DOSC IN	I	OSD DOT CLOCK oscillator. (OSD charactor oscillator)
51	DOSC OUT	O	Determining the horizontal position (left or right) of OSD.
52	4fsc OUT	O	Oscillator for OSD Sync. signal.
53	4fsc IN	I	Generating a blue background.
54	COMPOSITE SYNC.	I	- Receives composite signal from Y/C circuit. - Separates V-sync and H-sync in the OSD internal block. - The sync signal determines the character position of OSD.
55	CTL GAIN ADJ	O	Level control for PB CTL. (to CTL control circuit)
56	SHC/MEC “H”	O	Y/C processing of Video signal at SCAM/MESECAM. (to Y/C)
57	CST IN	I	1. Port to detect CST(cassette tape) switch input state. 2. With CST S/W input state, determaines whether CST tape is inserted or not.
58	SCART “H”	O	SCART 8 pin level control to GND or 12V. (to SCART 1)
59	VIDEO Mute “H”	O	High “H” applied, turns on the OSD or POWER.
60	POWER CONTROL “H”	O	1. A signal to switch voltages (5.3V, 12V)on/off whitch is controlled by the power key. 2. Outputs “H” in power On mode. Outputs “L” in power Off mode.
61	CAPSTAN REVERSE	O	A signal to control capstan motor’s direction of rotation. “L” output = reverse direction. “H” output = forward direction.
62	AUDIO MUTE “H”	O	1. Outputs “H” to mute audio signal in search mode and without sync signal. 2. Outputs “H” to eliminate pop noise generated in each mode during early switching point (Approx. 500ms) (EE/VV, TUNER/LINE, POWER ON/OFF, CH. UP/DOWN etc.)
63	TU SEC “H”	O	Now TUNER system is SECAM-L. (to TUNER)
64	16:9 “H”	O	SCART 8 pin level control to GND or 7V. (to SCART 1)
65	TSS “L”	O	Output chip enable signal for ACSS IC (IC5A1)
66	THER “H”	O	POWER switching of VPS I.C Vdd in POWER off state.
67	OPT RITC (CTL MON)	I	1. Outputs “H” to mute speakez. 2. Outputs “H” to eliminate pop noise generated in speakez.
68	TEST (GND)	–	GND.
69	X-TAL 2	O	1. 32.768 kHz oscillator is used as standard clock for clock display.
70	X-TAL 1	I	2. When Vcc supplied, oscillation occurs.
71	Vss	–	µ-COM main ground.
72	OSC 1	I	1. 10MHz oscillator is used to generate the standard clock used to operate the u-COM. 2. When Vcc is applied, Oscillation occurs. (But, when “L” is applied to pin 89 in power failure, Oscillation stops.)
73	OSC 2	O	

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>74
75
76
77</td><td>MODE SW4
MODE SW3
MODE SW2
MODE SW1</td><td>I</td><td>1. Port to ditect the mechanism’s position.
2. Deck and Mode SW Positions.
<table>
<tr><th>No.</th><th>MODE SW4</th><th>MODE SW3</th><th>MODE SW2</th><th>MODE SW1</th><th>DECK POSITION NAME</th></tr>
<tr><td>1</td><td>L</td><td>H</td><td>L</td><td>H</td><td>RETURN</td></tr>
<tr><td>2</td><td>L</td><td>L</td><td>L</td><td>H</td><td>EJECT</td></tr>
<tr><td>3</td><td>L</td><td>L</td><td>H</td><td>L</td><td>ULC</td></tr>
<tr><td>4</td><td>L</td><td>H</td><td>H</td><td>L</td><td>LOADING START</td></tr>
<tr><td>5</td><td>H</td><td>H</td><td>L</td><td>L</td><td>LOADING END</td></tr>
<tr><td>6</td><td>H</td><td>L</td><td>L</td><td>L</td><td>TUNE</td></tr>
<tr><td>7</td><td>H</td><td>L</td><td>H</td><td>H</td><td>REV</td></tr>
<tr><td>8</td><td>H</td><td>L</td><td>H</td><td>H</td><td>PLAY</td></tr>
<tr><td>9</td><td>H</td><td>L</td><td>L</td><td>H</td><td>STOP</td></tr>
<tr><td>10</td><td>H</td><td>H</td><td>L</td><td>H</td><td>FF, REW</td></tr>
</table>

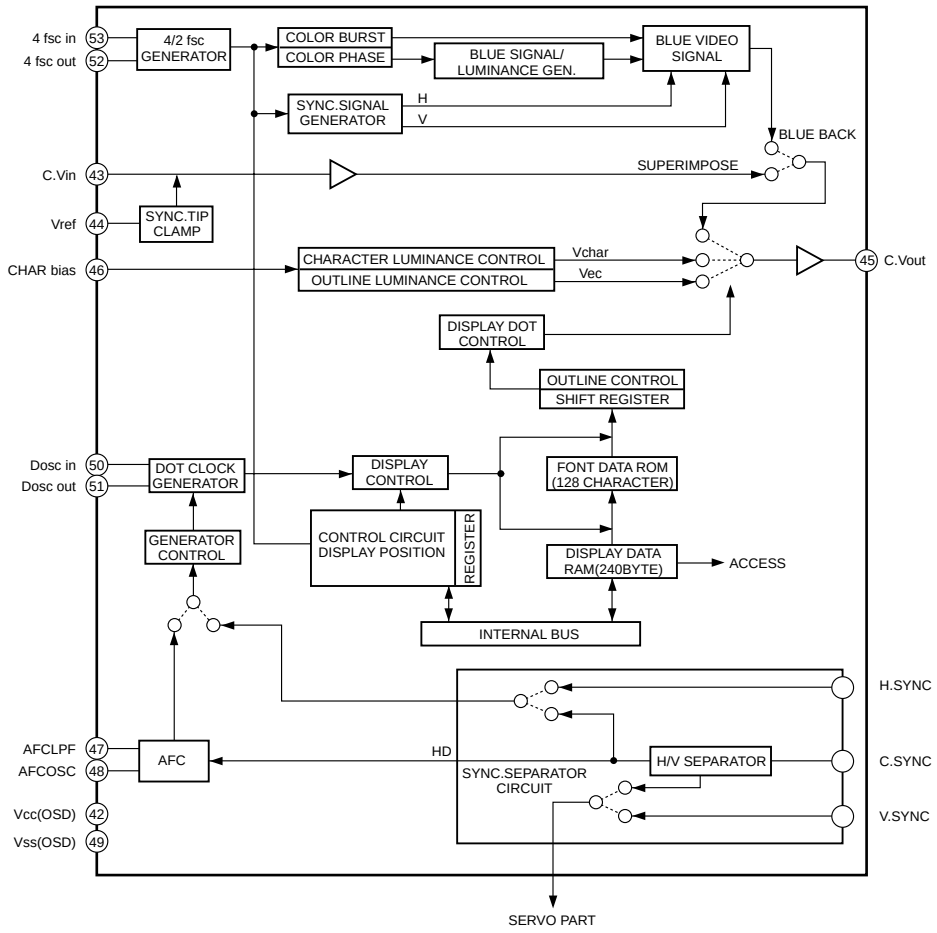
* Description of Deck Positions
<table>
<tr><td>RETURN</td><td>Cassette insertion standby mode</td></tr>
<tr><td>EJECT</td><td>For cassette insertion and ejection</td></tr>
<tr><td>ULC</td><td>Mode in which base assemblies P2 and P3 are completely unloaded status (unloading complete)</td></tr>
<tr><td>LOADING START</td><td>Mode in which base assemblies P2 and P3 can load tape after cassette loading is completed.</td></tr>
<tr><td>LOADING END</td><td>Mode in which base assemblies P2 and P3 have completely loaded tape. Also used for "power off mode".</td></tr>
<tr><td>NONE</td><td>None</td></tr>
<tr><td>REV</td><td>"REV" or "-SLOW" mode</td></tr>
<tr><td>PLAY</td><td>"Playback/Still/Slow/Stop" mode.</td></tr>
<tr><td>BRAKE</td><td>Mode that drives the brake (take-up, supply) to stop tape during "fast forward" or "rewind".</td></tr>
<tr><td>FF, REW</td><td>"Fast forward" or "Rewind" mode</td></tr>
</table></td></tr>
<tr><td>78</td><td>I-LIMIT</td><td>I</td><td>1. Input signal for stopping capstan motor.
2. When this port inputs “L”, the capstan motor stops.</td></tr>
<tr><td>79</td><td>REC “H”</td><td>O</td><td>1. When REC mode is operaing normally, outputs “H”.
2. Switched to REC mode by operating audio, Y/C pre-amp.
3. Outputs “H” and record audio, video signals on the tape.</td></tr>
<tr><td>80</td><td>CAP ACCEL “H”</td><td>O</td><td>Pulse output to control capstan motor in slow mode.</td></tr>
<tr><td>81</td><td>DRUM ADJ</td><td>O</td><td>Pulse output to control drum motor in slow mode.</td></tr>
<tr><td>82</td><td>R/C</td><td>I</td><td>1. This pin receives remocon data through RC901, which amplifies and detects the R/C signal.
2. After input signal is decoded in u-COM (IC501), and performs related key operation.</td></tr>
</table>

Pin No.	Pin Name	I/O	Description
83	G4	O	The signal for each segment and grid driving in the LED Clock.
84	G3	O	
85	G2	O	
86	G1	O	
87	COMPOSITE SYNC. (INV)	I	1. Input C-Sync (composite sync) to confirm whether video signal is present or not. 2. Confirms by counting 1H (63.5μsec) horizontal sync for a fixed time period.
88	STAND BY “H”	O	Power switching of DIGITRON in 3W mode.
89	POWER FAIL	I	1. When a power failure is detected, this pin goes “L” and the following sequence of events occurs. 2. Power failure detector timing sequence. 
90	IIC	O	A reference CLOCK for Hi-Fi, TU/IF, MTS, SPEAKER
91	IIC	O	A reference DATA for Hi-Fi, TU/IF, MTS, SPEAKER
92	S9	O	The signal for each segment and grid driving in the LED Clock.
93	S8	O	
94	FLD ENABLE	O	Outputs chip enable signal for FLD Drive IC (IC5F1).
95	FLD CLOCK	O	Outputs clock signal to operate FLD Drive IC (IC5F1).
96	FLD DATA IN	I	Serial interface signals for FLD Drive IC control.
97	FLD DATA OUT	O	
98	S3	O	The signal for each segment and grid driving in the LED Clock.
99	S2	O	
100	S1	O	

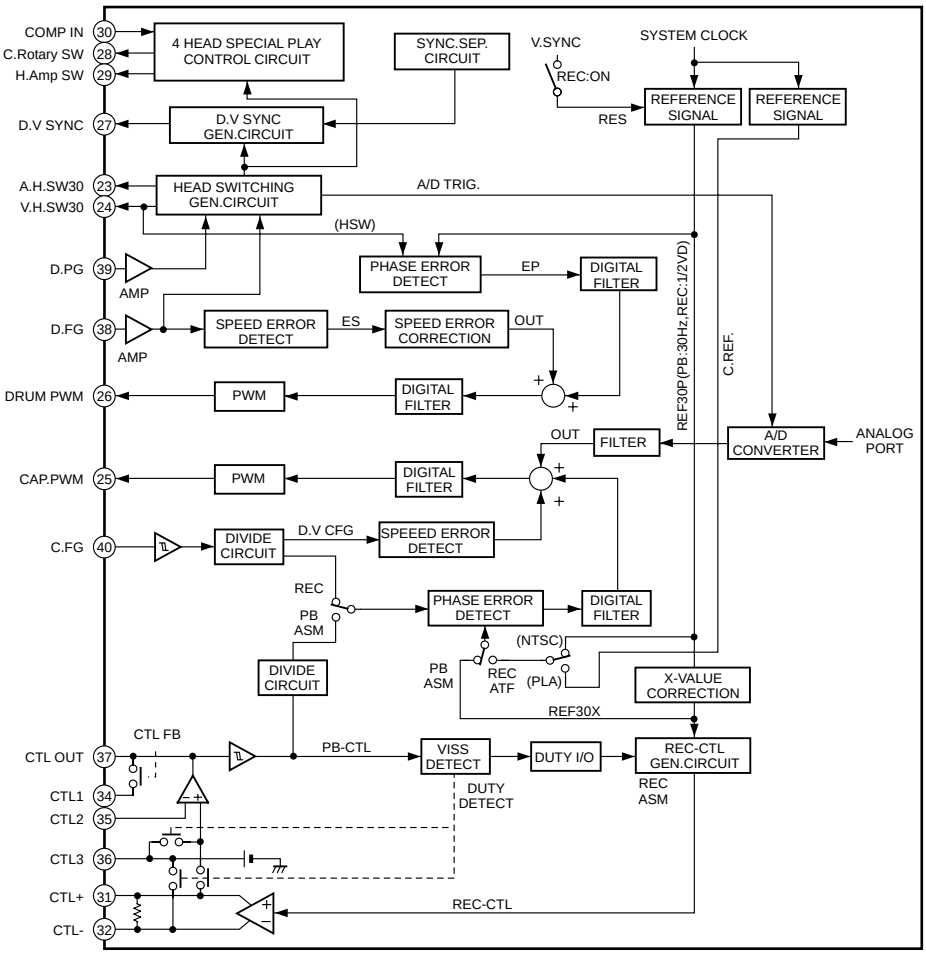
IC BLOCK DIAGRAM

IC, HD3977RC17F

<OSD Section>

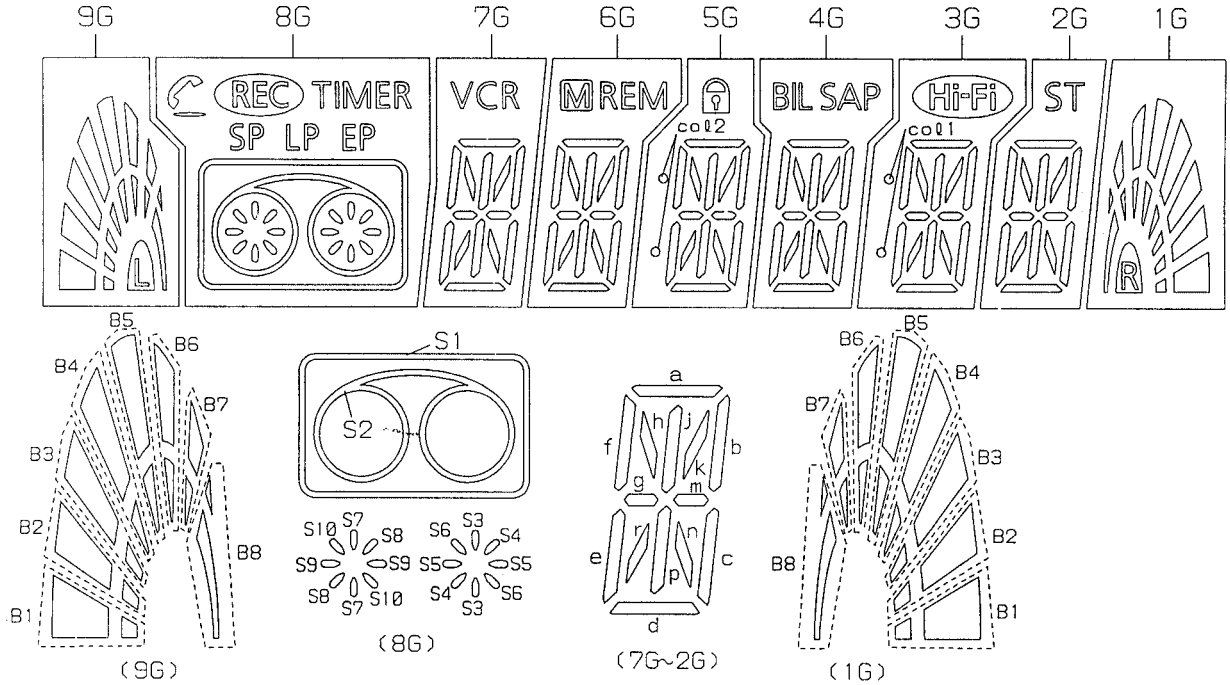


<SERVO Section>



FL DISPLAY

• GRID ASSIGNMENT



• ANODE CONNECTION

	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	-	TIMER	VCR	M		SAP	Hi-Fi	ST	-
P2	-	REC	-	REM	col2	BIL	col1	-	-
P3	B4		a	a	a	a	a	a	B4
P4	B5	EP	h	h	h	h	h	h	B5
P5	B6	LP	j	j	j	j	j	j	B6
P6	B7	SP	k	k	k	k	k	k	B7
P7	B8	S1	b	b	b	b	b	b	B8
P8	B3	S2	f	f	f	f	f	f	B3
P9	B2	S3	m	m	m	m	m	m	B2
P10	B1	S4	g	g	g	g	g	g	B1
P11	L	S5	c	c	c	c	c	c	R
P12	-	S6	e	e	e	e	e	e	-
P13	-	S7	r	r	r	r	r	r	-
P14	-	S8	p	p	p	p	p	p	-
P15	-	S9	n	n	n	n	n	n	-
P16	-	S10	d	d	d	d	d	d	-

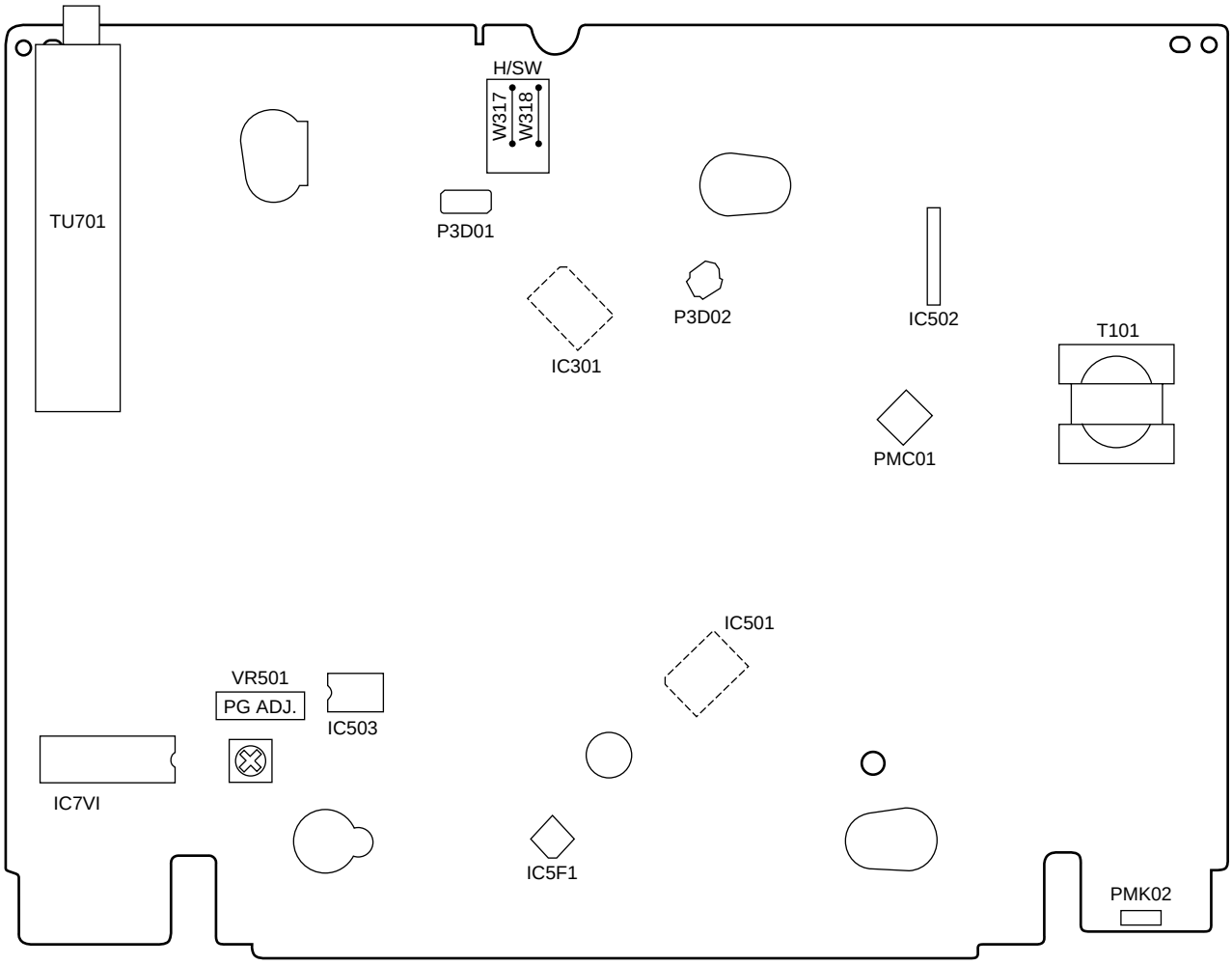
ADJUSTMENT

Test Equipment

• Oscilloscope	• Test Tape
• AC Millivolt Meter	TTV-P1

Adjustment Location

MAIN C.B (TOP VIEW)



1. Servo Adjustment

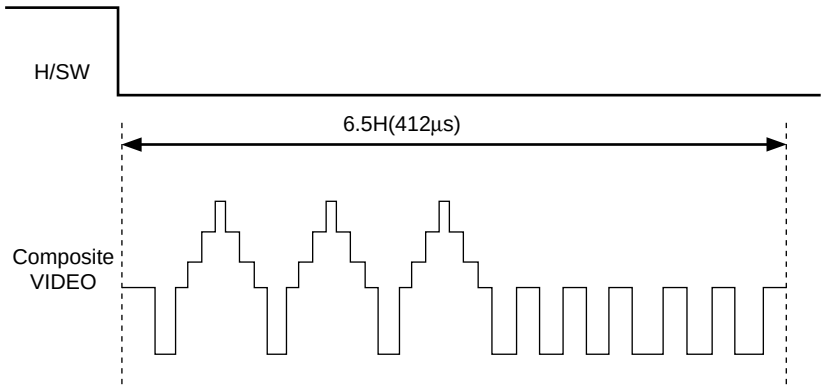
1) PG Adjustment

MODE	MEASUREMENT POINT	ADJUSTMENT POINT	SPECIFICATION
PLAY (TTV-P1)	VIDEO OUT H/SW (W317, W318)	VR501	6.5 ± 0.5H

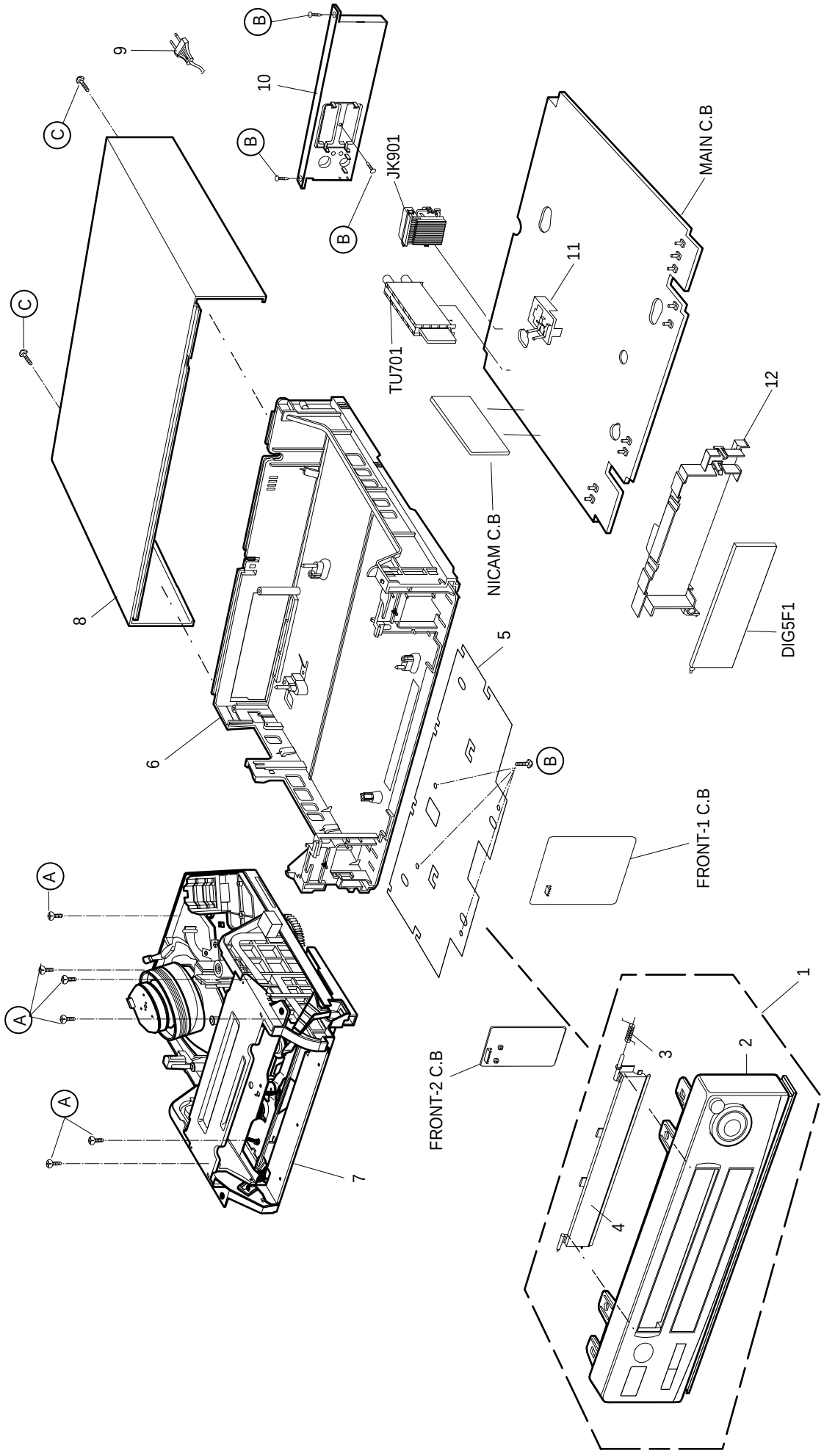
- Adjustment Procedure

1. Insert the PAL SP Test Tape (TTV-P1) and play.
   Note - Adjust the distance of X, pressing the Tracking (+) or Tracking (-) when the “ATR” is blink after the PAL SP Test Tape is inserted.
2. Connect the CH1 of the oscilloscope to the H/SW (W317, 318) and CH2 to the Video Out for the VCR.
3. Trigger the mixed Video Signal of CH2 to the CH1 H.SW (W317, W318), and then check the distance (time difference), which is from the selected A (B) Head point of the H.SW (W317, W318) signal to the starting point of the vertical synchronized signal, to 6.5 H ± 0.5 H (412 μs, 1H = 63.5 μs).

- WAVEFORM



MECHANICAL EXPLODED VIEW 1/1



MECHANICAL MAIN PARTS LIST 1/1

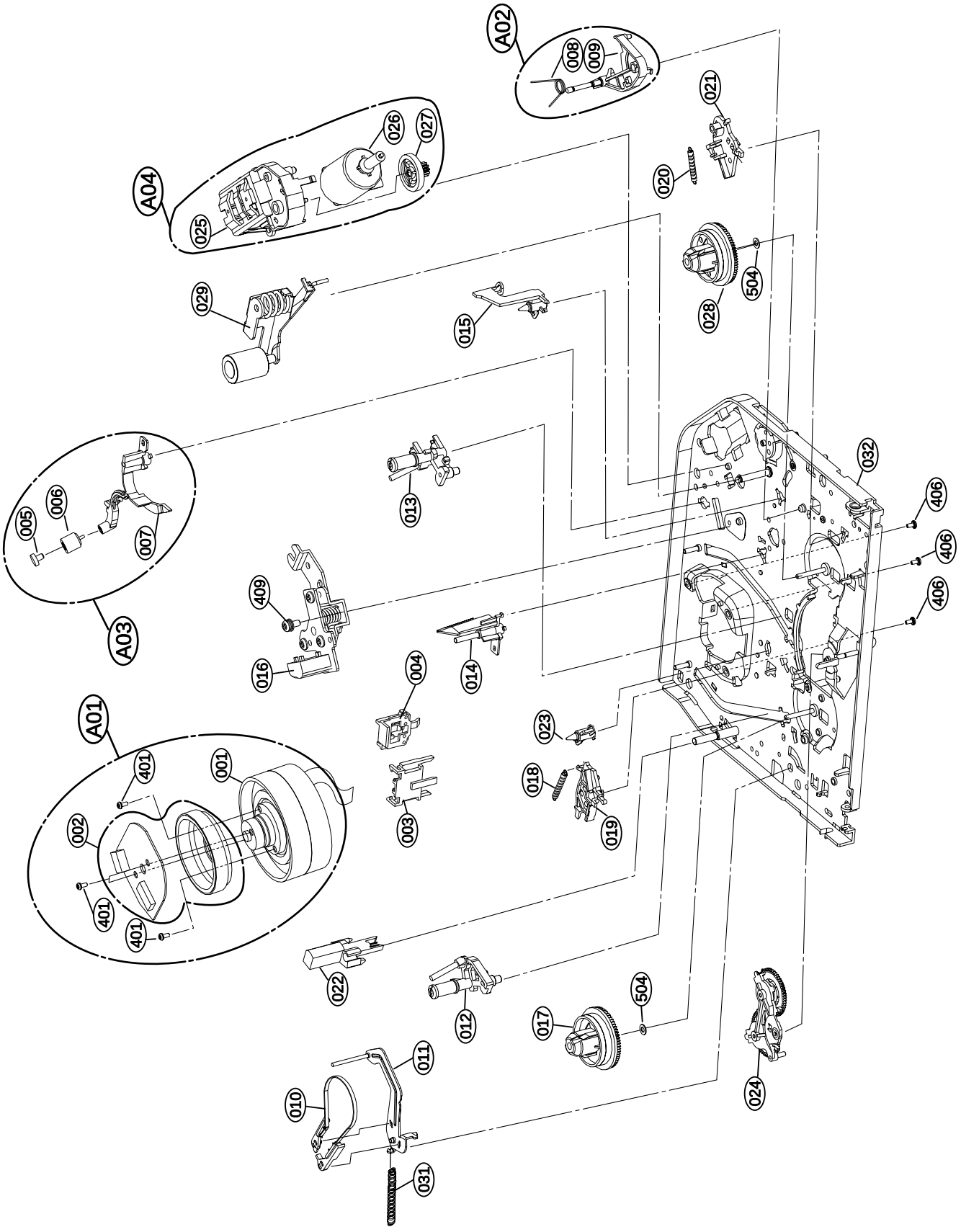
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
001	S7-21R-F09-4D0		PANEL ASSY,FRONT
002	——		PANEL FRONT
003	S4-426-81A-000		SPR,DOOR
004	S5-80R-003-3D0		DOOR CST
005	S5-50R-021-0A0		COVER BOTTOM
006	S2-10R-002-3D0		FRAME MAIN
007	——		DECK ASSY D33 4HF
008	S1-10R-012-8K0		CASE TOP
⚠ 009	S4-10R-CHD-01A		POWER CORD
010	S7-21R-D02-3J0		PANEL ASSY L
011	S1-11R-008-9B0		CASE ASSY
012	S9-30R-013-3B0		HOLDER DIGITRON
A	87-741-097-410		SCREW,3-12
B	S3-530-51A-000		SCREW,SPECIAL
C	S3-531-36A-000		SCREW,SPECIAL(FBK)

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

MECHANISM EXPLODED VIEW 1/3

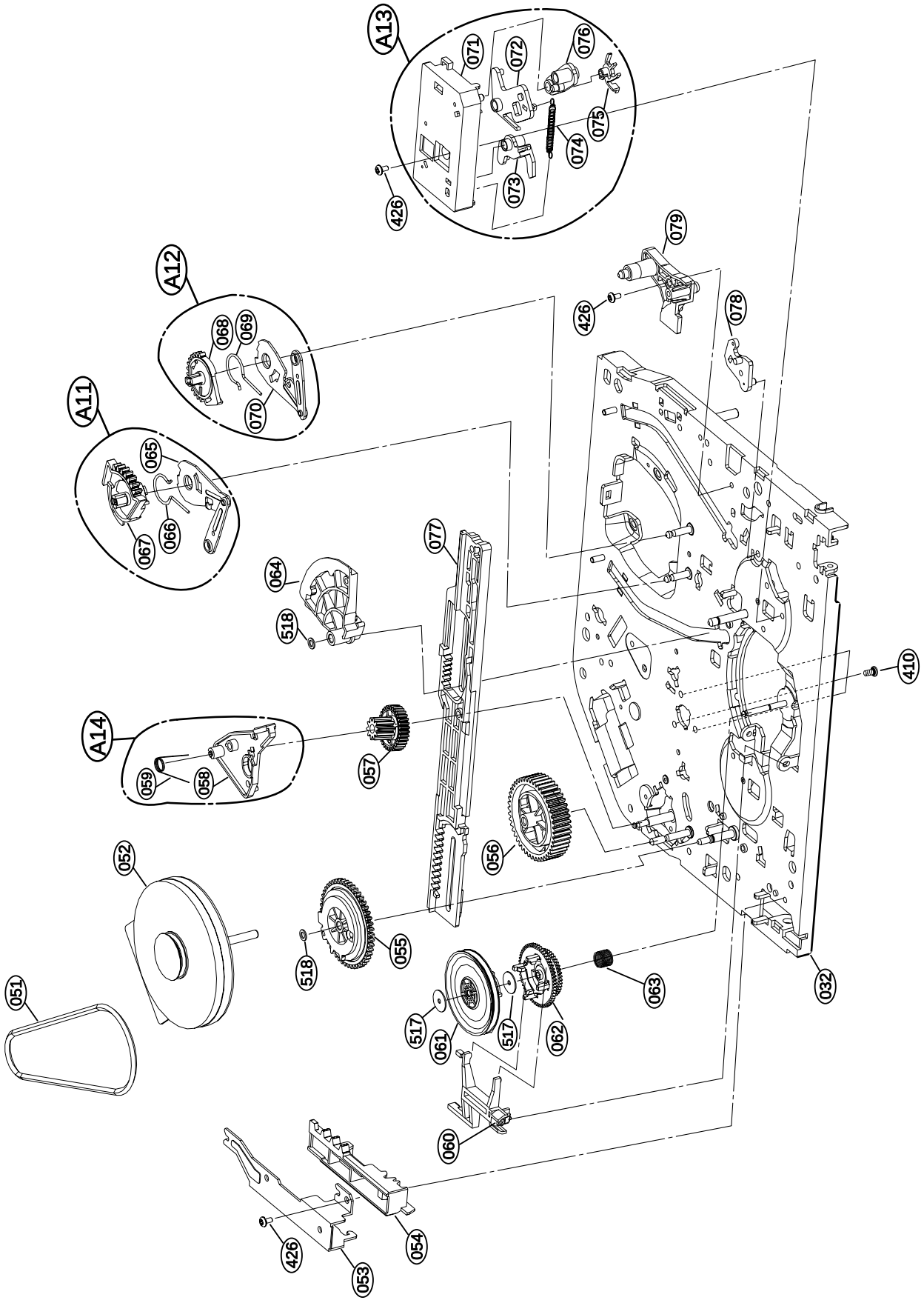


MECHANISM MAIN PARTS LIST 1/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
001	S7-23R-010-6D0		DRUM ASSY SUB D33-6CH
002	S6-80R-B00-04A		MOTOR(MECH)
003	S9-30R-010-8A0		HOLDER FPC(6CH)
004	S0-06R-001-4A0		CAP,FPC
005	——		CAP,A CLEANER
006	——		ROLLER CLEANER
007	——		ARM CLEANER
008	S9-70R-004-3A0		SPRING T/UP
009	S2-60R-001-1A0		ARM T/UP
010	S7-70R-000-4A0		BAND ASSY TENSION(MECH)
011	S2-61R-000-4A0		ARM ASSY TENSION
012	——		BASE ASSY P2
013	S0-41R-000-4A0		BASE ASSY P3
014	S0-41R-000-7A0		BASE ASSY P4
015	S8-70R-000-1A0		OPENER LID
016	S0-41R-000-5A0		BASE ASSY A/C HEAD
017	S4-08R-000-1A0		REEL S
018	S9-70R-005-4A0		SPRING SB
019	S4-21R-000-3A0		BRAKE ASSY S
020	S9-70R-005-3A0		SPRING TB
021	S4-21R-000-4A0		BRAKE ASSY T
022	S5-238-33B-000		HEAD FE D33
023	S9-80R-001-0A0		SUPPORTER CST
024	S2-61R-000-9A0		ARM ASSY IDLER-J
025	S8-10R-005-3A0		BRACKET L/D MOTOR
026	S6-81R-000-7A0		MOTOR ASSY L/D
027	S4-70R-002-5A0		GEAR WHEEL
028	S4-08R-000-2A0		REEL T
029	S2-61R-001-1A0		ARM ASSY PINCH
031	S9-70R-005-2A0		SPRING TENSION
032	S1-41R-000-2A0		CHASSIS ASSY
401	87-261-071-410		PAN HEAD SCREW 2.6-4
406	87-261-094-410		PAN HEAD SCREW 3-6
409	87-741-095-410		SCREW,PAN HEAD 3.0-8.0
504	S3-540-01B-000		WASHER,P.S 3.1-6-0.5
A01	——		DRUM(CIRC) ASSY D33-6CH
A02	——		ARM ASSY
A03	S2-61R-000-3A0		ARM ASSY CLEANER
A04	——		BRACKET ASSY L/D MOTOR

MECHANISM EXPLODED VIEW 2/3

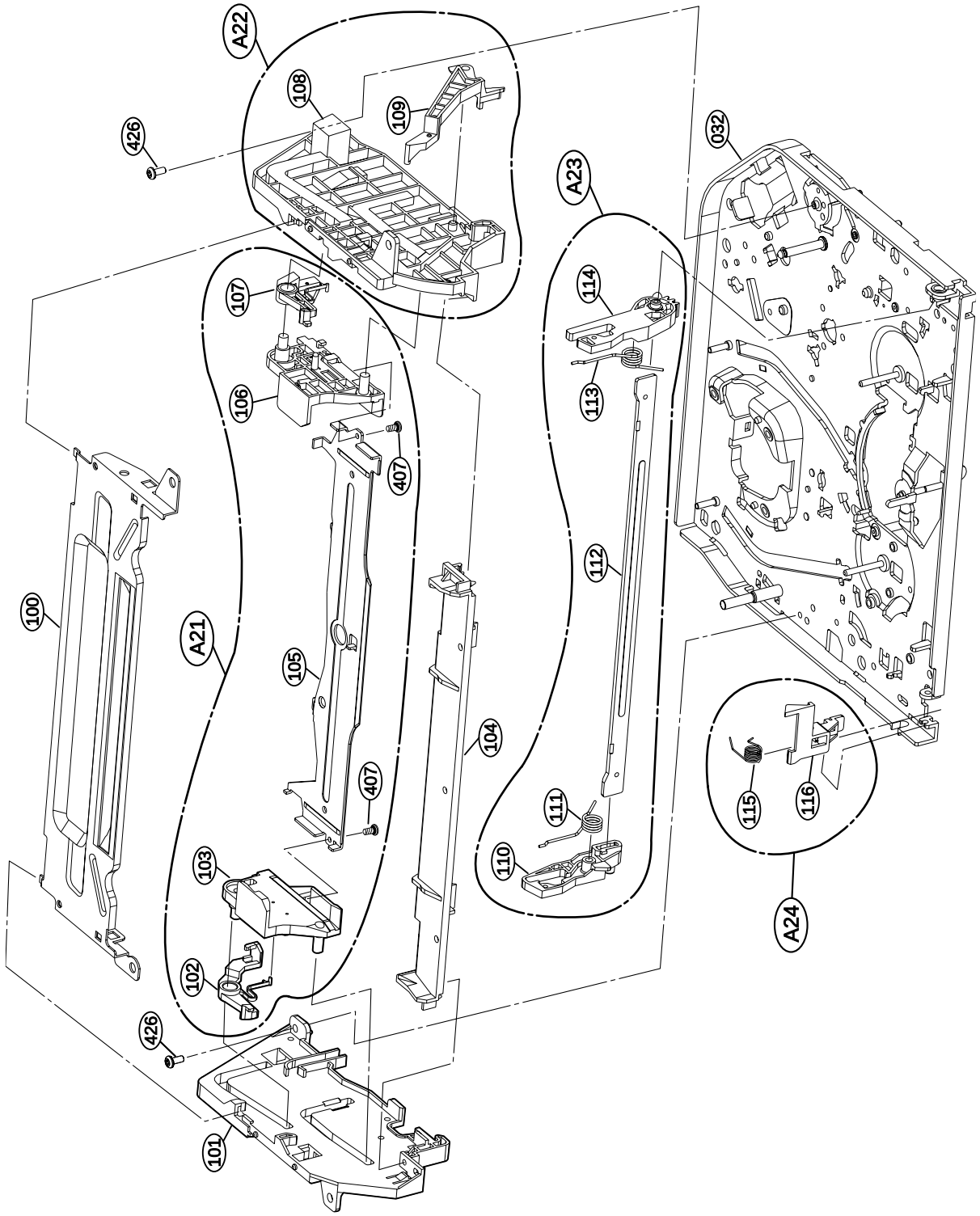


MECHANISM MAIN PARTS LIST 2/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
032	S1-41R-000-2A0		CHASSIS ASSY
051	S4-00R-000-5A0		BELT CAPSTAN
052	S6-80R-000-2A0		MOTOR(MECH)
052	S6-80R-A00-03A		MOTOR(MECH)
053	S9-74R-001-8A0		GUIDE RACK F/L
054	S4-70R-003-7A0		GEAR RACK F/L
055	S4-70R-003-3A0		GEAR DRIVE
056	S4-70R-003-2A0		GEAR CAM
057	S4-70R-003-6B0		GEAR CONNECT
058	——		BRAKE CAPSTAN
059	S9-70R-005-9A0		SPRING CAPSTAN
060	S5-10R-002-5A0		LEVER F/R
061	S2-65R-000-2A0		CLUTCH ASSY
062	S4-70R-004-4A0		GEAR ASSY UP/D
063	S9-70R-005-1A0		SPRING UP/D
064	S4-70R-003-4A0		GEAR SECTOR
065	——		LEVER P3
066	——		SPRING L/D
067	——		GEAR P3
068	——		GEAR P2
069	——		SPRING L/D
070	——		LEVER P2
071	——		BRACKET JOG
072	——		LEVER JOG
073	——		LEVER SLOW
074	S9-70R-004-9A0		SPRING JOG
075	——		GEAR JOG
076	——		ARM JOG
077	S3-00R-015-7A0		PLATE SLIDER
078	S5-10R-002-2A0		LEVER TENSION
079	S0-40R-001-8A0		BASE TENSION
410	SA-PF0-262-218		SCREW,PAN HEAD 2.6-6.8
426	87-261-094-410		PAN HEAD SCREW 3-6
517	SW-ZZR-000-4B0		WASHER STOPPER
518	SW-ZZR-000-4A0		WASHER STOPPER
A11	S4-70R-002-8A0		GEAR ASSY P3
A12	S4-70R-002-6A0		GEAR ASSY P2
A13	S8-11R-001-2A0		BRACKET ASSY JOG
A14	——		BRAKET ASSY CAPSTAN

MECHANISM EXPLODED VIEW 3/3



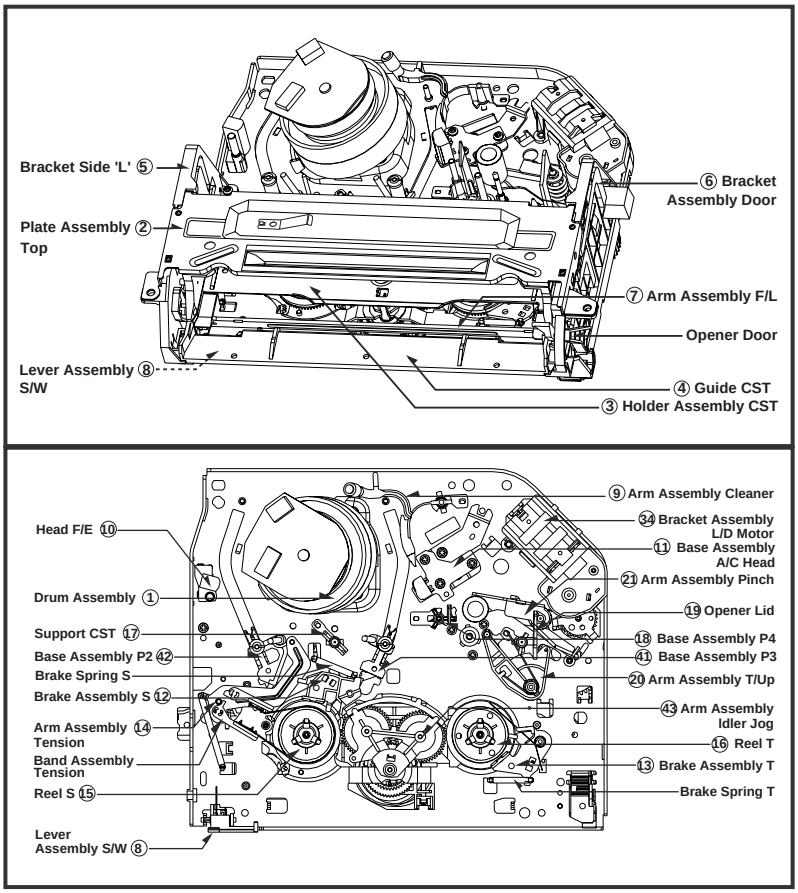
MECHANISM MAIN PARTS LIST 3/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
032	S1-41R-000-2A0		CHASSIS ASSY
100	S3-01R-002-9A0		PLATE ASSY TOP
101	S8-10R-005-6A0		BRACKET SIDE(L)
102	——		LEVER STOPPER(L)
103	——		HOLDER SIDE(L)
104	S9-74R-001-9A0		GUIDE CST
105	——		HOLDER CST
106	——		HOLDER SIDEE(R)
107	——		LEVER STOPPER(R)
108	——		BRAKET SIDE(R)
109	——		OPENER DOOR
110	——		ARM F/L(L)
111	——		SPRING F/L(L)
112	——		BODY F/L
113	——		SPRING F/L(R)
114	——		ARM F/L(R)
115	S9-70R-005-0A0		SPRING SWITCH
116	S5-10R-002-0A0		LEVER SWITCH
407	87-841-034-210		SCREW PAN HEAD 2.0-5.0
426	87-261-094-410		PAN HEAD SCREW 3-6
A21	S9-31R-001-5A0		HOLDER ASSY CST
A22	S8-11R-001-4A0		BRACKET ASSY
A23	S2-61R-001-0A0		ARM ASSY F/L
A24	——		LEVER ASSY SWITCH

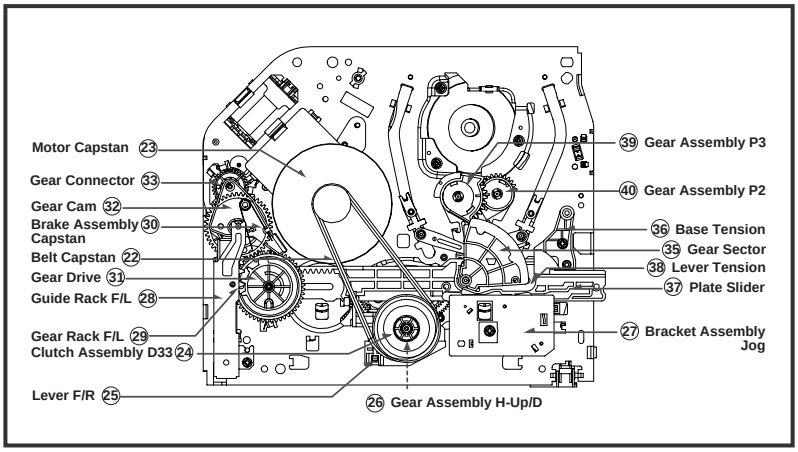
DECK MECHANISM PARTS LOCATIONS

• Top View



Procedure / Starting No.		Part	Fixing Type	Figure
	1	Drum Assembly	3 Screws , Cap FPC	A-1
	2	Plate Assembly Top	Two Hooks	A-2
2	3	Holder Assembly CST	Chassis Hole	A-2
	4	Guide CST	2 Hooks	A-2
2,3,4	5	Bracket Side (L)	1 Screw	A-2
2,3,4	6	Bracket Assembly Door	1 Screw	A-2
2,3,4,5,6	7	Arm Assembly F/L	Chassis Hole	A-2
2,3,4,5	8	Lever Assembly S/W	Chassis Hole	A-2
	9	Arm Assembly Cleaner	Chassis Embossing	A-3
	10	Head F/E	2 Hooks	A-3
	11	Base Assembly A/C Head	1 Screw	A-3
	12	Brake Assembly S	Chassis Hole	A-4
2,3	13	Brake Assembly T	Chassis Hole	A-4
2,3,12,	14	Arm Assembly Tension	Chassis Hole	A-4
2,3,12,14	15	Reel S	Chassis Shaft	A-4
2,3,13	16	Reel T	Chassis Shaft	A-4
	17	Support CST	Chassis Embossing	A-5
	18	Base Assembly P4	Chassis Embossing	A-5
	19	Opener Lid	Chassis Embossing	A-5
19	20	Arm Assembly T/Up	Chassis Embossing	A-5
19	21	Arm Assembly Pinch	Chassis Shaft	A-5

• Bottom View



Procedure / Starting No.		Part	Fixing Type	Figure
	22	Belt Capstan		A-6
22	23	Motor Capstan	3 Screws	A-6
	24	Clutch Assembly D33	1 Washer	A-6
22,24	25	Lever F/R	1 Hook	A-6
22,24	26	Gear Assembly H-Up/D	2 Washers	A-6
	27	Bracket Assembly Jog	1 Screw	A-7
	28	Guide Rack F/L	1Screw	A-7
28	29	Gear Rack F/L		A-7
28, 29	30	Brake Assembly Capstan	Chassis Shaft	A-7
28, 29	31	Gear Drive	1 Washer	A-8
28, 29, 30	32	Gear Cam	Chassis Shaft	A-8
28, 29, 30, 31	33	Gear Connector	Chassis Shaft	A-8
	34	Bracket Assembly L/D Motor	3 Hooks	A-8
	35	Gear Sector	3 Washers	A-9
	36	BaseTension	1 Screw	A-9
22, 24, 25, 27	37	Plate Slider	Chassis Shaft	A-9
28, 29, 31, 35				
36				
22, 24, 25, 27				
28, 29, 31, 35	38	Lever Tension	Chassis Hole	A-9
36				
35	39	Gear Assembly P3	2 Hooks	A-10
35, 39	40	Gear Assembly P2	2 Hooks	A-10
35, 39, 40	41	Base Assembly P3	Chassis Hole	A-10
35, 39, 40, 41	42	Base Assembly P2	Chassis Hole	A-10
1, 2	43	Arm Assembly Idler Jog	1 Hook	A-10

NOTE : When reassembly perform the procedure in the reverse order.

1) When reassembling, confirm Mechanism and Mode Switch Alignment Position (Pefer to Page 69)
2) When disassembling, the Parts for Starting No. Should be removed first.

DECK MECHANISM DISASSEMBLY

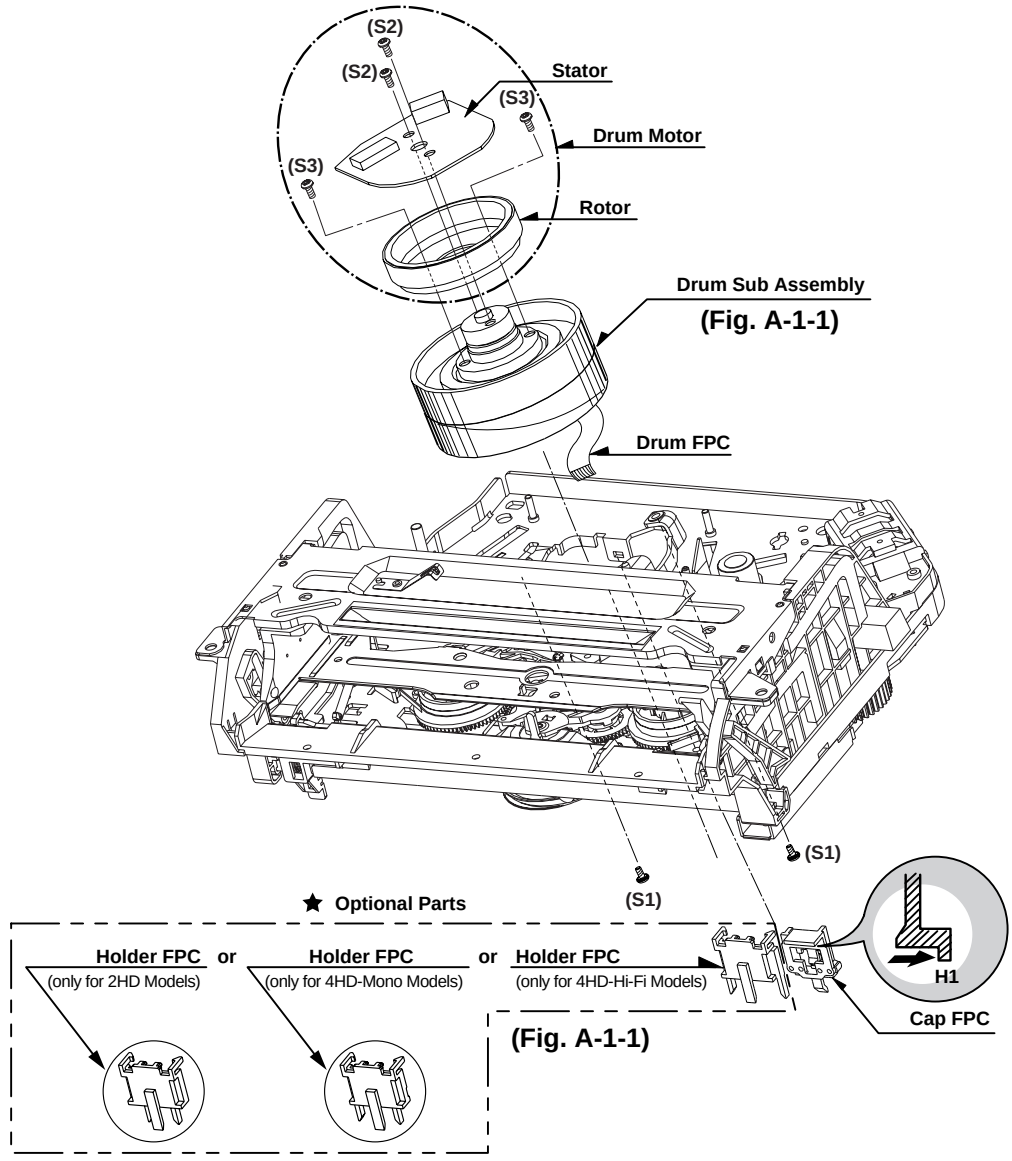


Fig. A-1

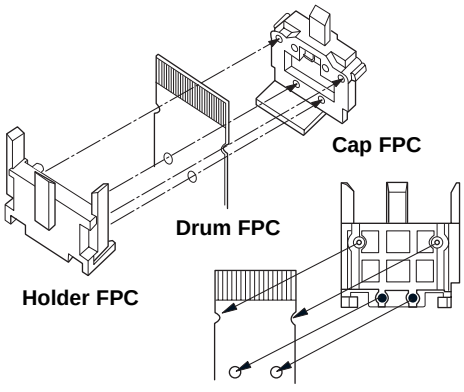
1. Drum Assembly (Fig. A-1-1)

1) Unhook the (H1) on the back side of the Chassis and separate the Cap FPC.
2) Remove three Screws (S1) and lift up the Drum Assembly.
3) Remove two Screws (S2) and Separate the Stator of Drum Motor.
4) Remove two Screws (S3) and Separate the Rotor of Drum Motor from the Drum Sub Assembly.

NOTE

(1) When reassembling Cap FPC, two Holes of Drum FPC are inserted to the two Bosses of Holder FPC correctly. (Refer to Fig. B-1)

(Fig. B-1)



DECK MECHANISM DISASSEMBLY

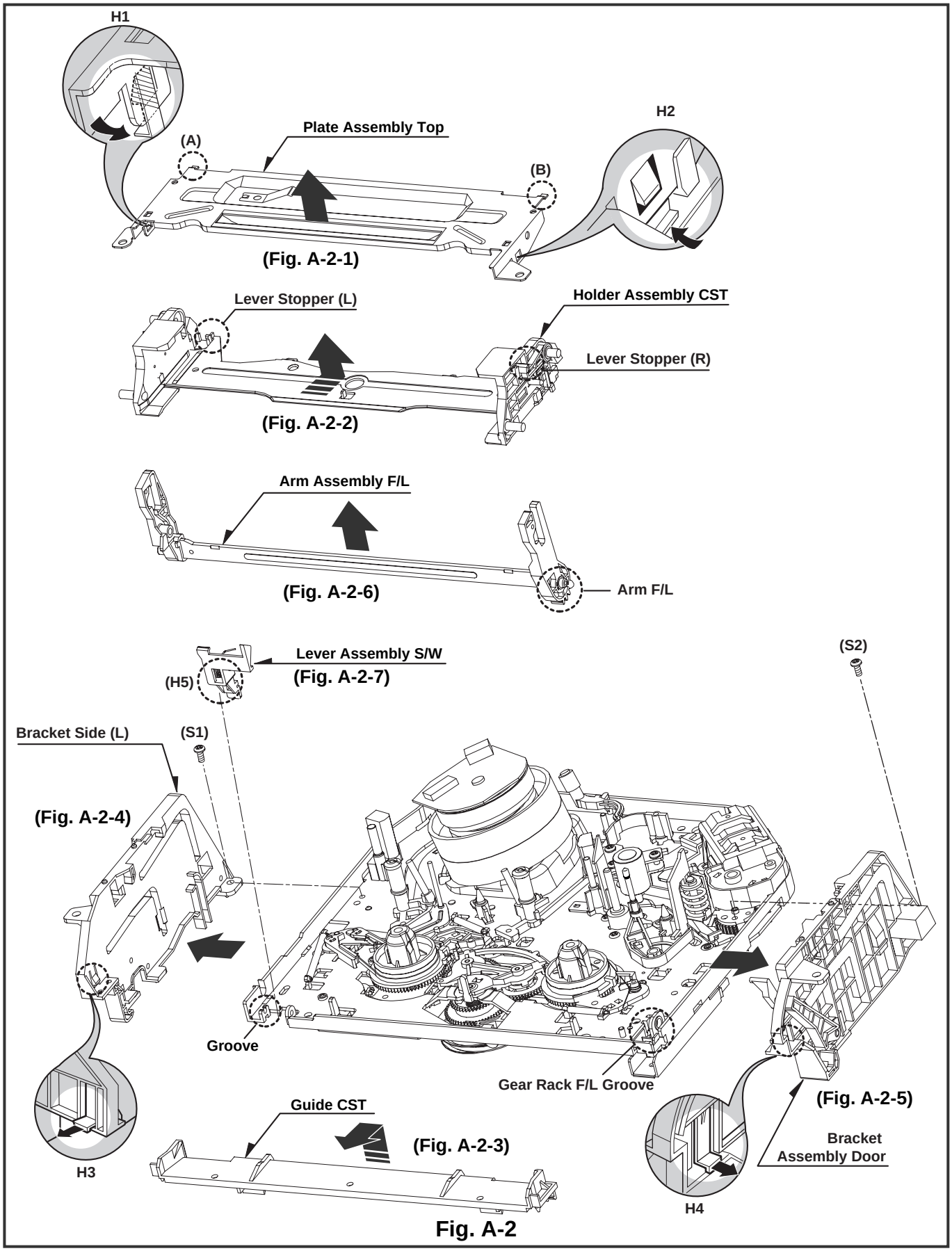


Fig. A-2

DECK MECHANISM DISASSEMBLY

2. Plate Assembly Top (Fig. A-2-1)

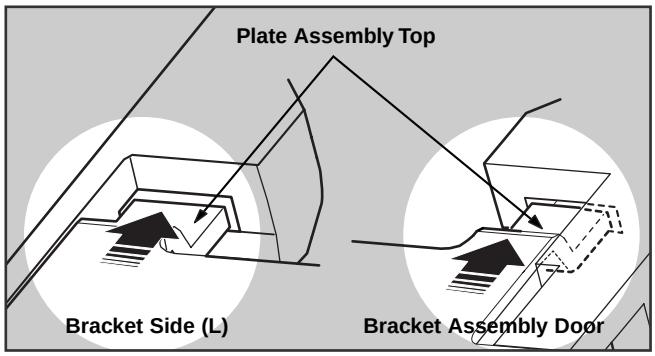
1) Unhook the (H1) and separate the Left Side.
2) Unhook the (H2) and lift up the Plate Assembly Top.

NOTE

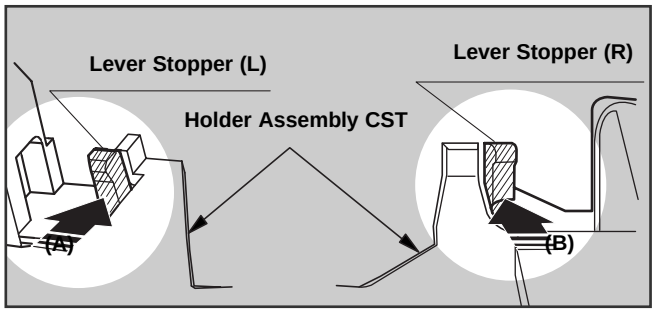
(1) When reassembling, confirm (A),(B) Part of the Plate Assembly Top is inserted to the (L),(R) Grooves of the Bracket Side(L) and Bracket Assembly Door.

3. Holder Assembly CST (Fig.A-2-2)

1) Push the Lever Stopper(L),(R) in the direction of the arrows (A), (B), and move the Holder Assembly CST.

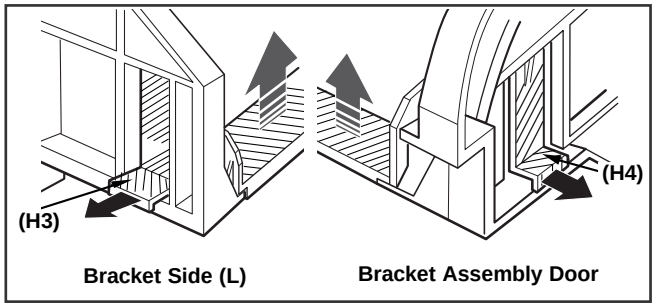


2) Push the Bracket Assembly Door to the right and lift up the Holder Assembly CST along the Guide Groove of the Bracket Assembly Door.



4. Guide CST (Fig.A-2-3)

1) Push two Hooks(H3),(H4) in the direction of the arrow and separate the left side.
2) Unhook (H5),(H6) as above No.1) and disassemble the Guide CST in the direction of the arrow.



5. Bracket Side(L) (Fig. A-2-4)/ Bracket Assembly Door (Fig.A-2-5)

1) Remove the Screw (S1) and disassemble the Bracket Side(L) in the front.
2) Remove the Screw (S2) and disassemble the Bracket Assembly Door in the front.

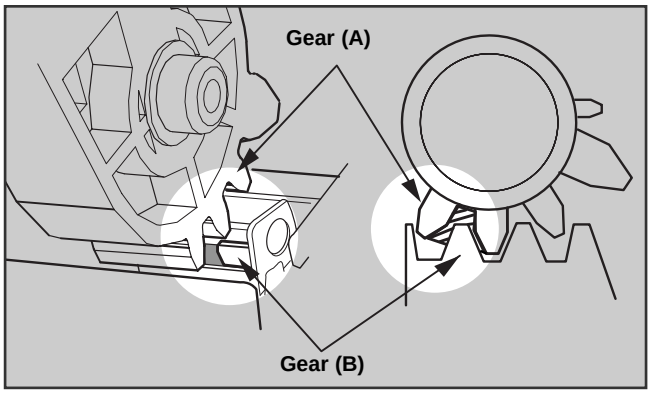
6. Arm Assembly F/L (Fig. A-2-6)

1) Push the Arm Assembly F/L to the left and lift up it.

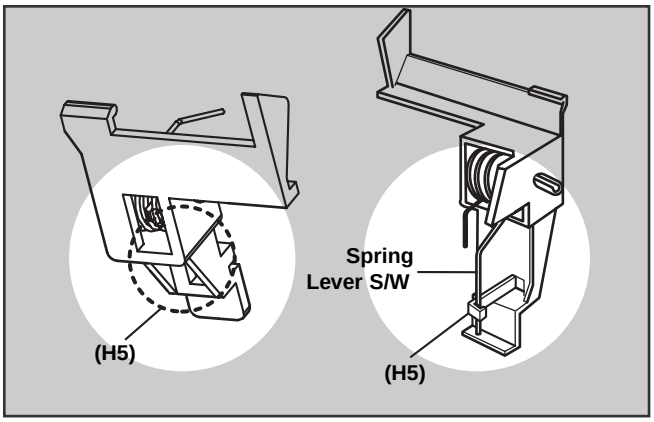
NOTE

(1) When reassembling, confirm that the Gear(A) of the Arm F/L and the Gear(B) of the Gear Rack F/L are assembled as below.

7. Lever Assembly S/W (Fig. A-2-7)

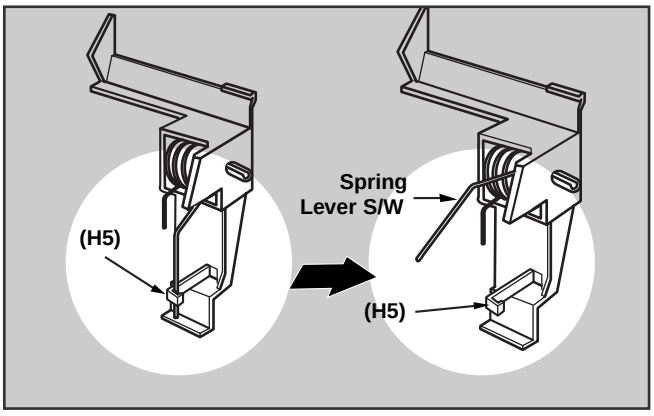


1) Hook the Spring Lever S/W on (H5).
2) Lift up the left side of the Lever S/W from the Groove(A) of the Chassis.



NOTE

(1) Place the Spring Lever S/W of the above (No.1) as original position.



DECK MECHANISM DISASSEMBLY

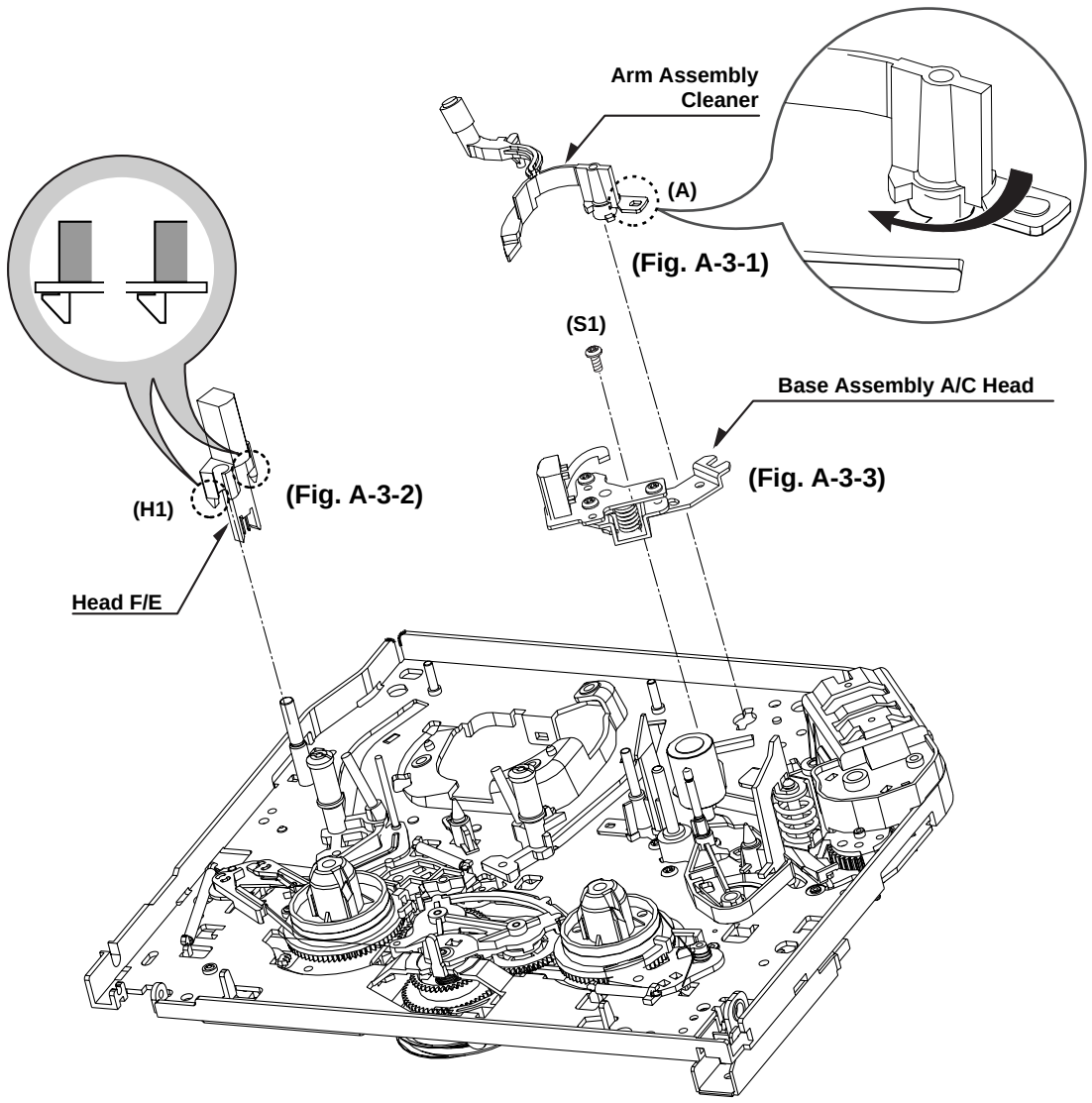


Fig. A-3

8. Arm Assembly Cleaner(Fig. A-3-1)

1) Break away the (A) part shown above Fig. A-3-1 from the Embossing of the Chassis in the clockwise direction and lift up the Arm Assembly Cleaner.

9. Head F/E (Fig. A-3-2)

1) Unhook the two Hooks (H1) on the back side of the Chassis and lift up the Head F/E.

10. Base Assembly A/C Head (Fig. A-3-3)

1) Remove the Screw (S1) and lift up the Base Assembly A/C Head.

DECK MECHANISM DISASSEMBLY

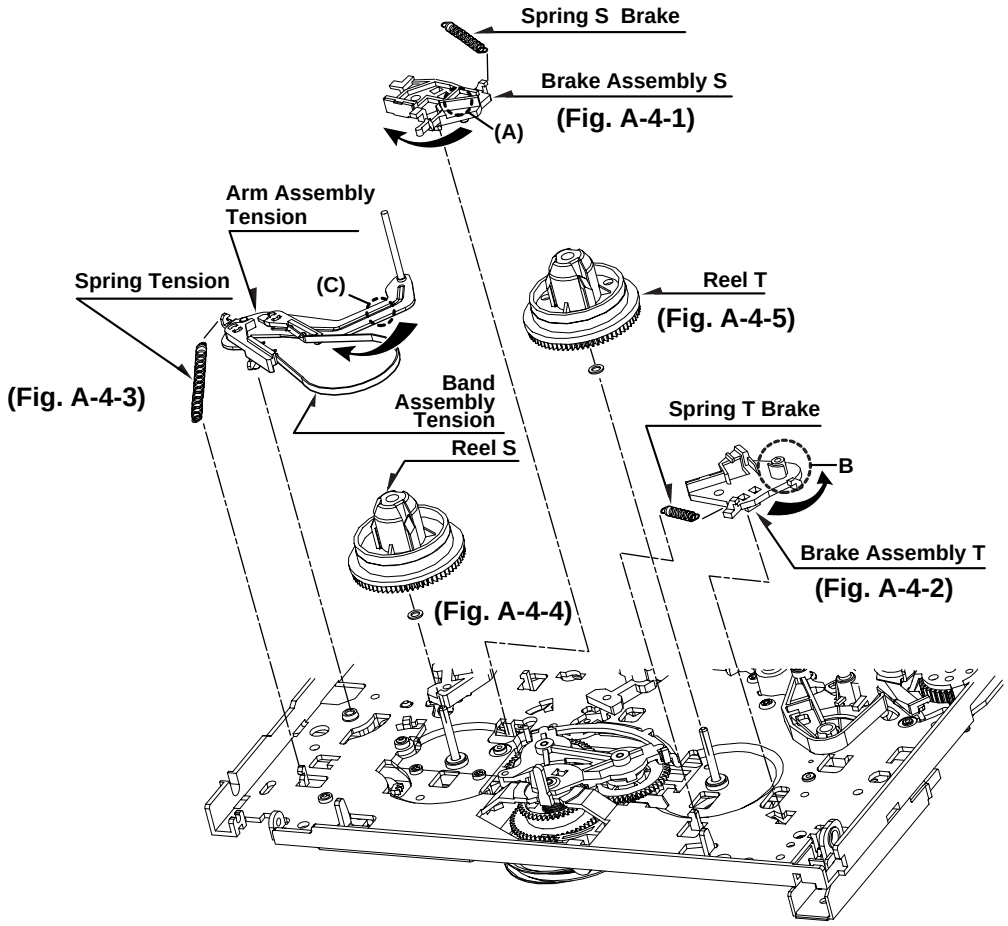


Fig. A-4

11. Brake Assembly S (Fig. A-4-1)

1) Remove the Spring S Brake.
2) Hold the (A) part shown above Fig. A-4-1 and turn to the clockwise direction, and then lift up the Brake Assembly S.

NOTE

(1) When reassembling, be careful not to change the Spring with below No.12.(Refer to Fig. B-2).

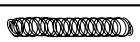
12. Brake Assembly T (Fig. A-4-2)

1) Remove the Spring T Brake.
2) Hold the (B) part shown above Fig. A-4-2 and turn to the counterclockwise direction, and then lift up the Brake Assembly T.

NOTE

(1) When reassembling, be careful not to change the Spring with above No.11.(Refer to Fig. B-2).

(Difference for Springs) **(Fig. B-2)**

	Spring T Brake Color (Black)
	Spring S Brake
	**Spring Tension**

13. Arm Assembly Tension (Fig. A-4-3)

1) Remove the Spring Tension.
2) Hold the (C) part shown above Fig. A-4-3 and turn to the clockwise direction, and then lift up the Arm Assembly Tension.

NOTE

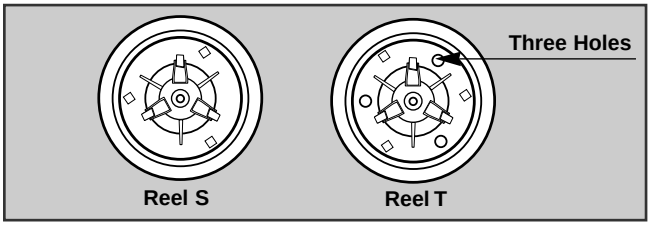
(1) When reassembling, be careful not to change the Spring with above No.11,12.(Refer to Fig. B-2).

14. Reel S (Fig. A-4-4) & Reel T (Fig. A-4-5)

1) Lift up the Reel S and Reel T.

NOTE

(1) When reassembling, be careful not to change the Reel S and Reel T each other.



(2) Confirm two Slide Washers under the Reel S and Reel T.

DECK MECHANISM DISASSEMBLY

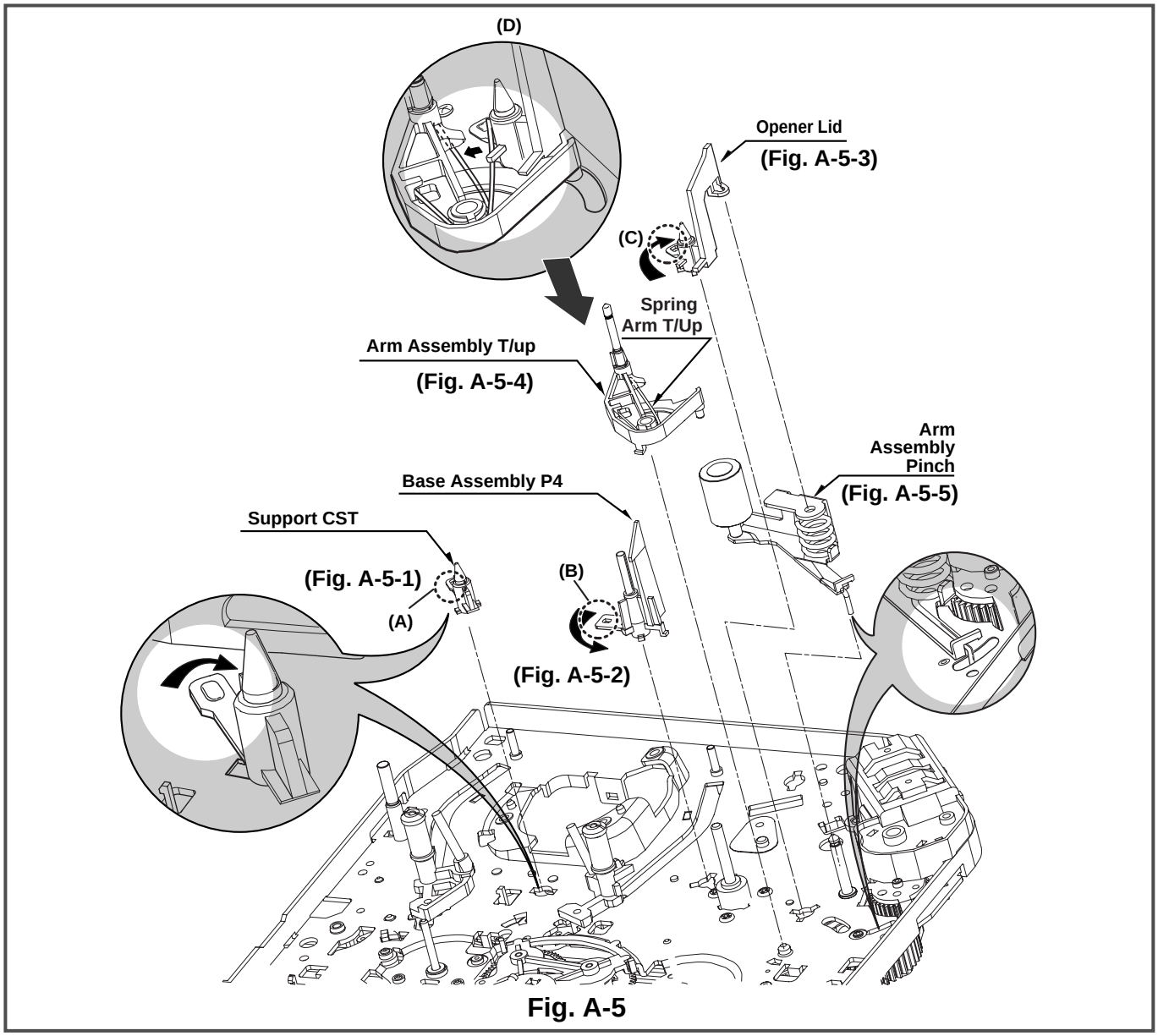


Fig. A-5

15. Support CST (Fig. A-5-1)

1) Break away the (A) part shown above Fig. A-5-1 from the Embossing of the Chassis in the clockwise direction, and lift up the Support CST.

16. Base Assembly P4 (Fig. A-5-2)

1) Break away the (B) part shown above Fig. A-5-2 from the Embossing of the Chassis in the counterclockwise direction and lift up the Base Assembly P4.

17. Opener Lid (Fig. A-5-3)

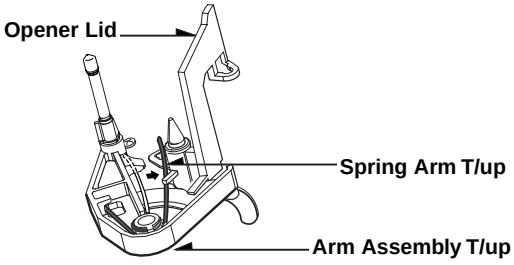
1) Hook the Spring Arm T/up on the Split digged under the Arm Assembly T/up.(Refer to Fig.A-5-4(D)).
2) Break away the (C) Part of the Opener Lid from the Embossing of the Chassis in the Clockwise direction and lift up the Opener Lid.

18. Arm Assembly T/up (Fig. A-5-4)

1) Confirm that the Spring Arm T/up is placed as above (No.17.1).
2) Lift up the Arm Assembly T/up.

NOTE

(1) When reassembling, unhook the Spring Arm T/up Shown above (No.17.1) to the original position.



19. Arm Assembly Pinch (Fig. A-5-5)

1) Lift up the Arm Assembly Pinch.

DECK MECHANISM DISASSEMBLY

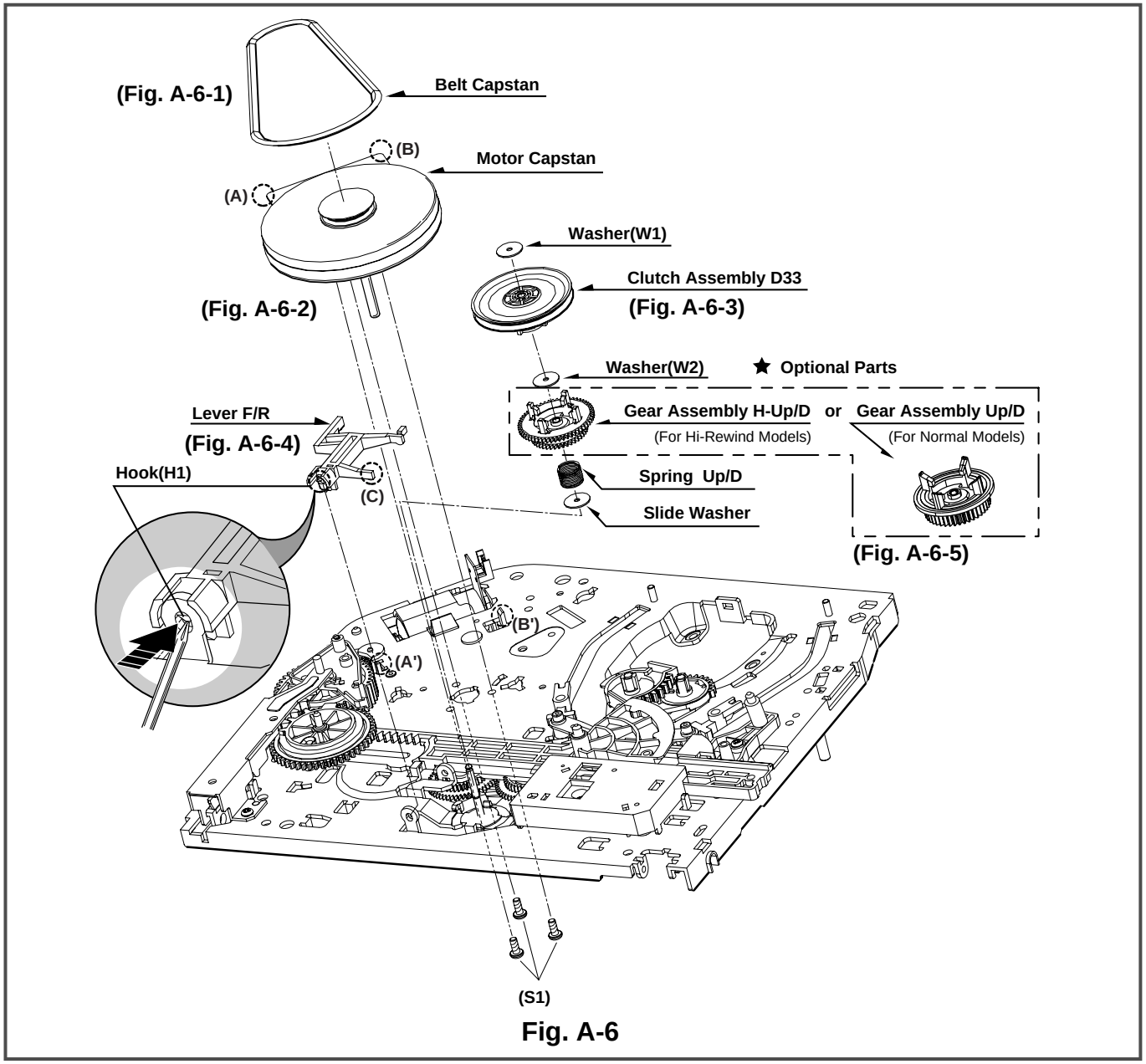


Fig. A-6

20. Belt Capstan (Fig. A-6-1)/ Motor Capstan (Fig. A-6-2)

1) Remove the Belt Capstan.
2) Remove three Screws(S1) on the back side of the Chassis and lift up the Motor Capstan.

NOTE

(1) When reassembling, Confirm the (A), (B) parts of Motor Capstan is located to the (A'), (B') of the Chassis.

21. Clutch Assembly D33 (Fig. A-6-3)

1) Remove the Washer(W1) and lift up the Clutch Assembly D33.

22. Lever F/R (Fig. A-6-4)

1) Unhook the (H1) shown above Fig. A-6-4 and lift up the Lever F/R.

NOTE

(1) When reassembling, move the (C) part of the Lever F/R up and down, then confirm if it is returned to original position.

23. Gear Assembly H-Up/D or Gear Assembly Up/D (Fig. A-6-5)

1) Remove the Washer(W2) and lift up the Gear Assembly H-up/D.
2) Remove the Spring Up/D.
3) Remove the Slide Washer.

NOTE

(1) Gear Assembly H-Up/D is for Hi-Rewind Models.
(2) Gear Assembly Up/D is for Normal Models except Hi-Rewind Models.

DECK MECHANISM DISASSEMBLY

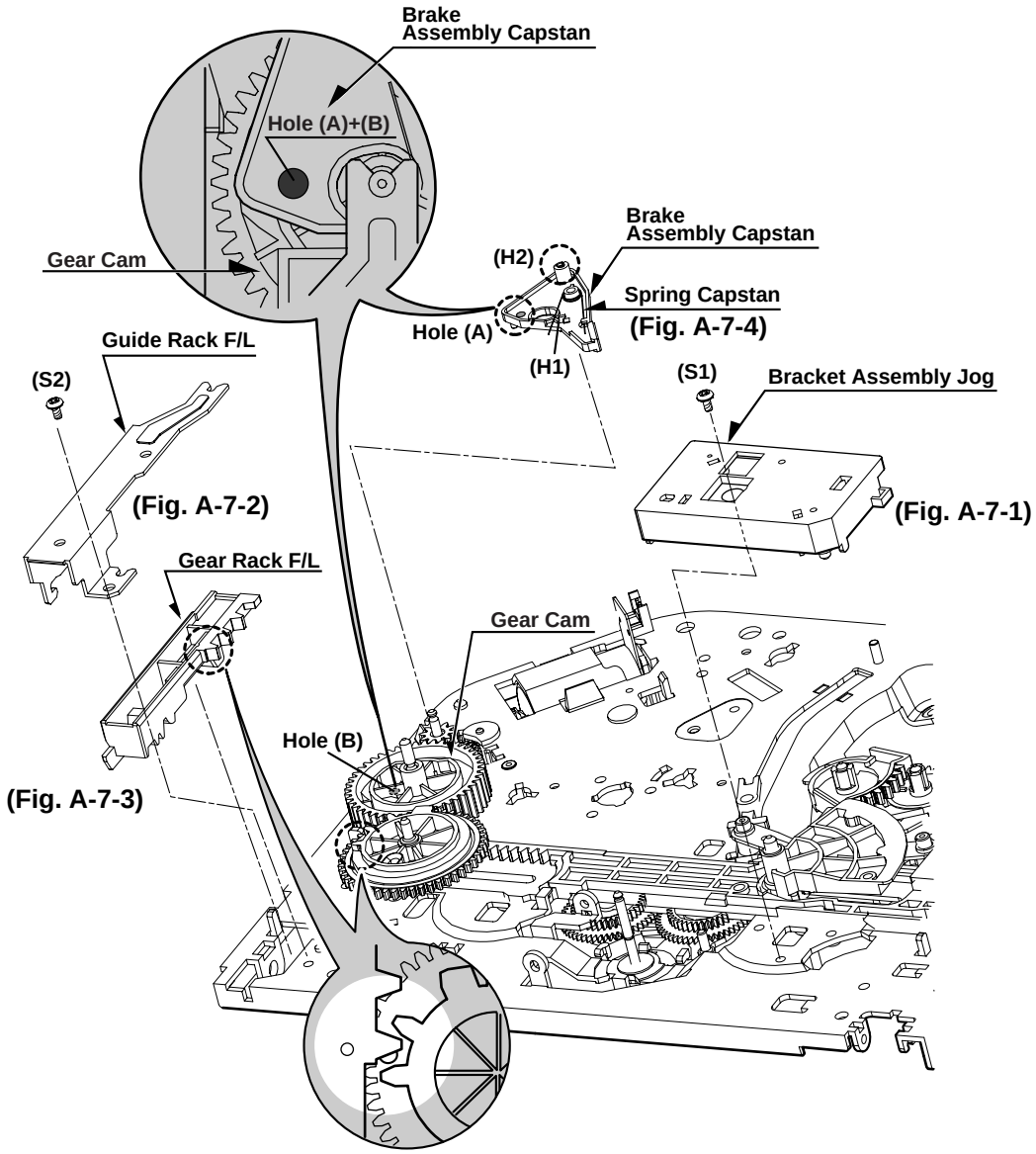


Fig. A-7

24. Bracket Assembly Jog (Fig. A-7-1)

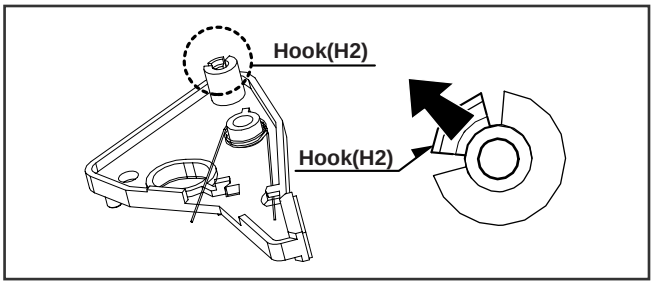
1) Remove the Screw(S1) and lift up the Bracket Assembly Jog.

25. Guide Rack F/L (Fig. A-7-2)/ Gear Rack F/L (Fig. A-7-3)

1) Remove the Screw(S2) and lift up the Guide Rack F/L.
2) Lift up the Gear Rack F/L.

26. Brake Assembly Capstan (Fig. A-7-4)

1) Hook the Spring Capstan on the Hook(H1).
2) Unhook the Hook(H2) and lift up the Brake Assembly Capstan.(Refer to Fig. to the right)



NOTE

(1) When reassembling, confirm that the Hole(A) of the Brake Assembly Capstan is aligned to the Hole(B) of the Gear Cam.
(Refer to above Fig. A-7-4).

DECK MECHANISM DISASSEMBLY

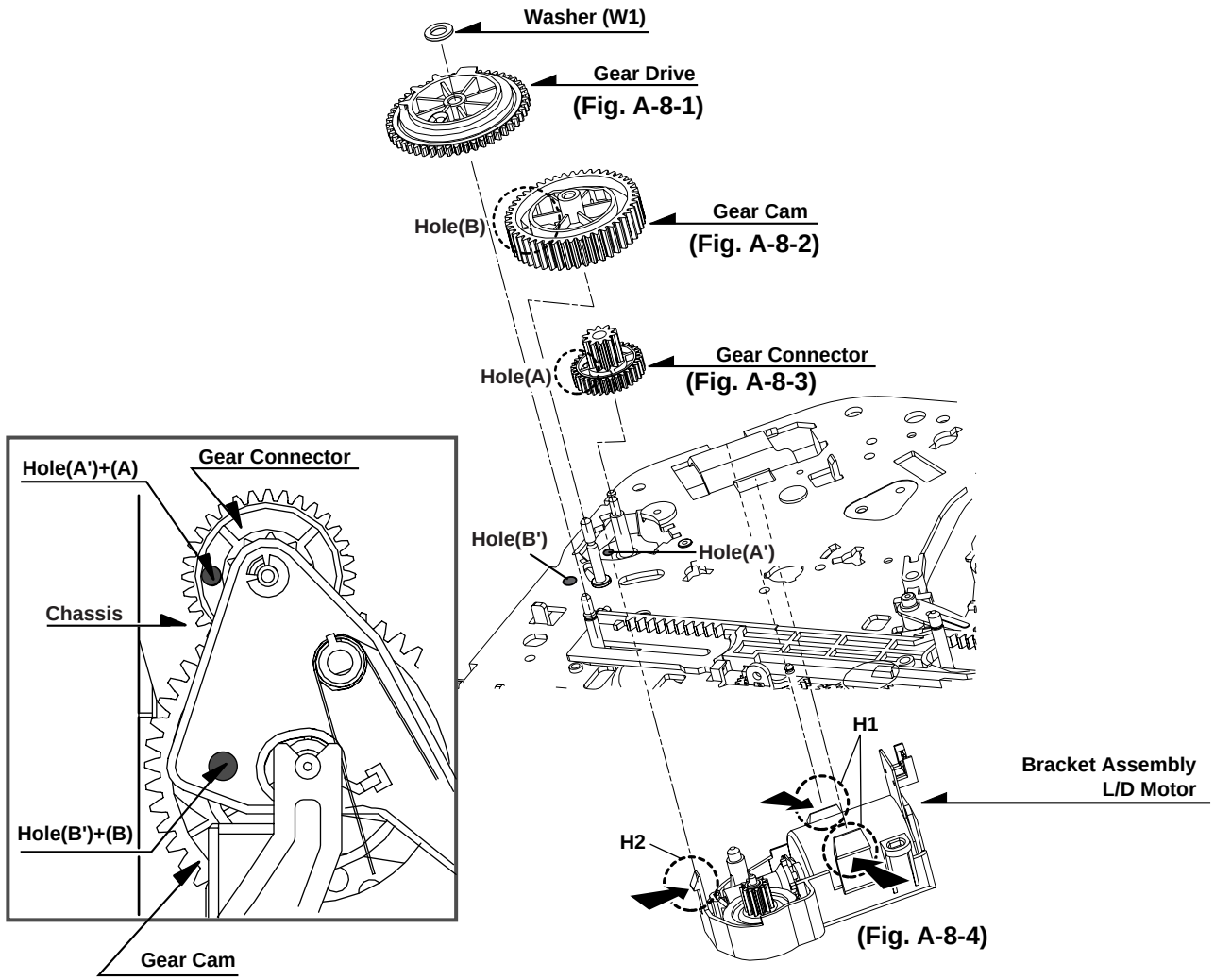


Fig. A-8

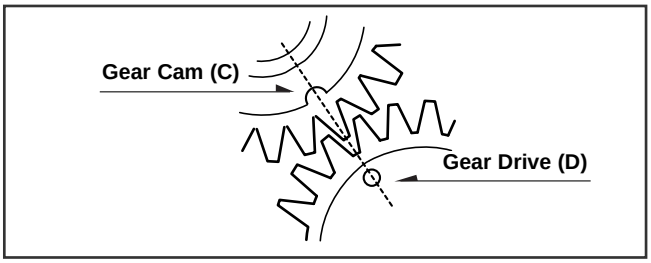
27. Gear Drive (Fig. A-8-1)/ Gear Cam (Fig. A-8-2)/ Gear Connector (Fig. A-8-3)

1) Remove the Washer(W1) and lift up the Gear Drive.
2) Lift up the Gear Cam.
3) Lift up the Gear Connector.

NOTE

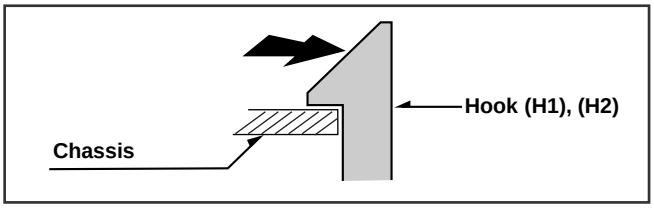
(1) When reassembling, confirm that the Hole (A) of the Gear Connector is aligned to the Hole (A') of the Chassis (Fig. A-8-3).
(2) When reassembling, confirm that the Hole (B) of the Gear Cam is aligned to the Hole (B') of the Chassis (Fig. A-8-2).
(3) When reassembling, confirm that the (C) part of the Gear Cam is aligned to the (D) part of the Gear Drive as shown Fig. B-3

(Fig. B-3)



28. Bracket Assembly L/D Motor (Fig. A-8-4)

1) Unhook the three Hooks(H1),(H2) and push down the Bracket Assembly L/D Motor.



DECK MECHANISM DISASSEMBLY

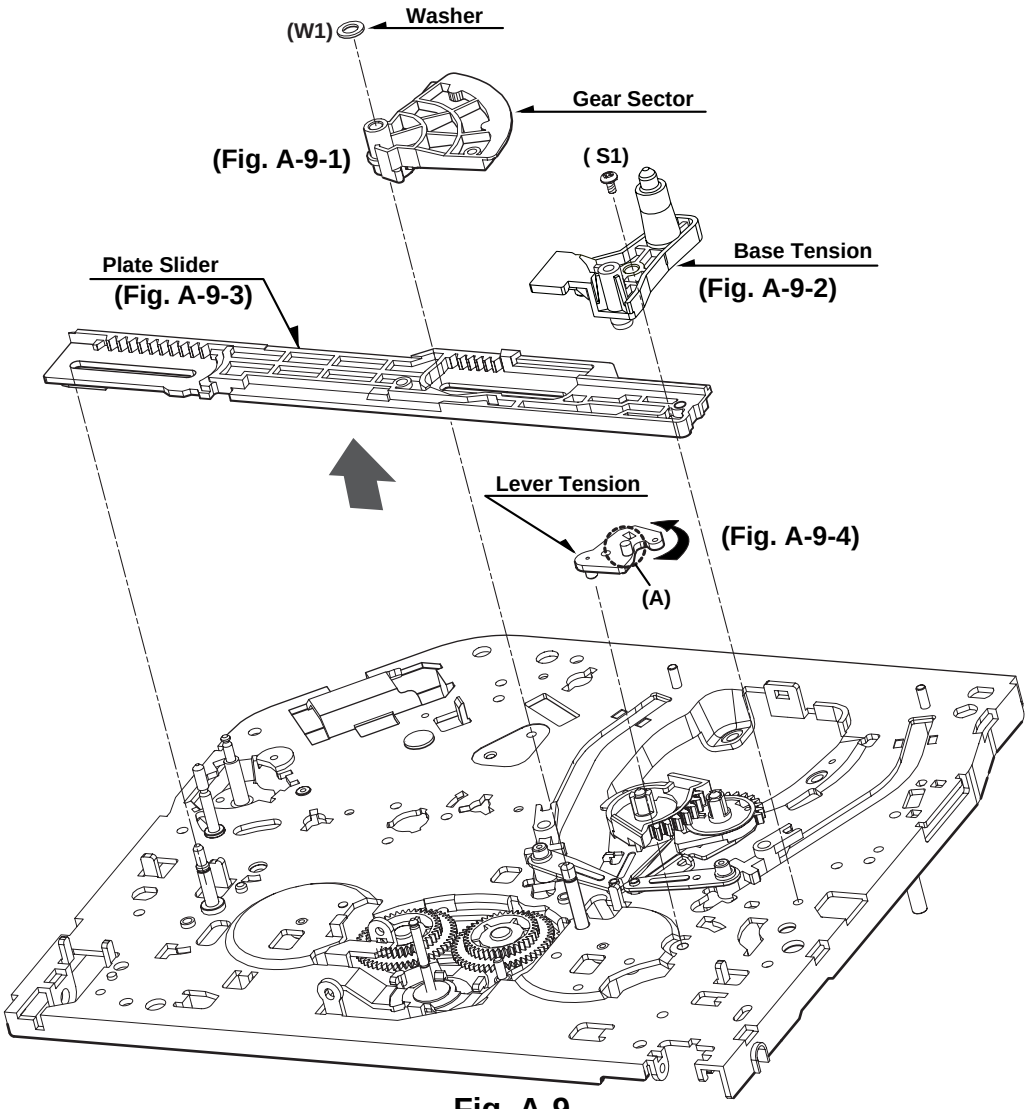


Fig. A-9

29. Gear Sector (Fig. A-9-1)

1) Remove the Washer(W1) and lift up the Gear Sector.

30. Base Tension (Fig. A-9-2)/ Plate Slider (Fig. A-9-3)/ Lever Tension (Fig. A-9-4)

1) Remove the Screw(S1) and lift up the Base Tension.
2) Lift up the Plate Slider.
3) Hold the (A) Part of the Lever Tension and turn to the counterclockwise direction, and then lift up the Lever Tension.

NOTE

(1) When reassembling, turn the Lever Tension to the clockwise direction in maximum.

DECK MECHANISM DISASSEMBLY

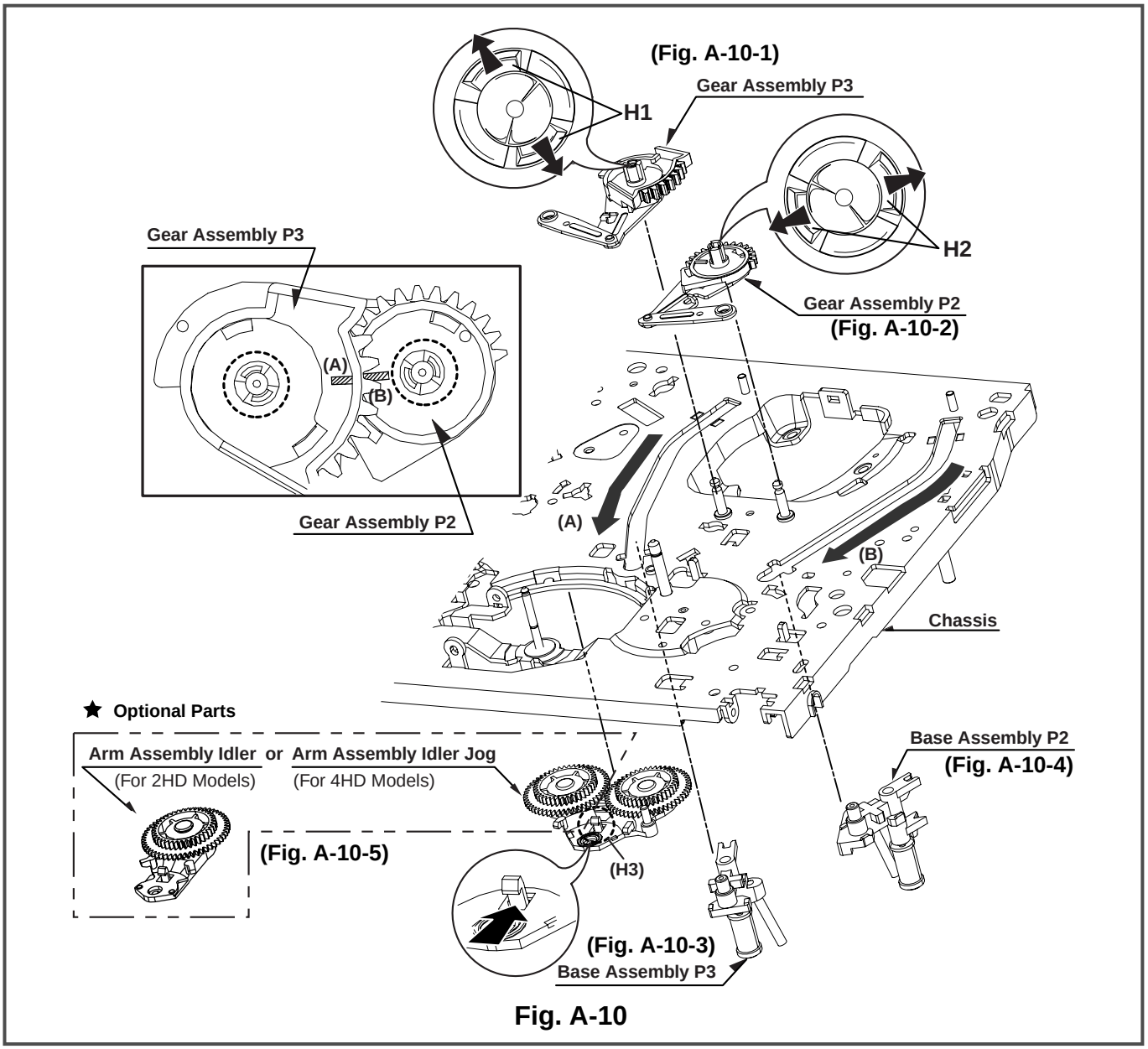


Fig. A-10

31. Gear Assembly P3 (Fig. A-10-1)/ Gear Assembly P2 (Fig. A-10-2)

1) Unhook the two Hooks(H1) and lift up the Gear Assembly P3.
2) Unhook the two Hooks(H2) and lift up the Gear Assembly P2.

32. Base Assembly P3 (Fig. A-10-3)/ Base Assembly P2 (Fig. A-10-4)

1) Move the Base Assembly P3 in the direction of the arrow of the Chassis Hole(A) and push down the Base Assembly P3.
2) Move the Base Assembly P2 in the direction of the arrow of the Chassis Hole(B) and push down the Base Assembly P2.

33. Arm Assembly Idler Jog or Arm Assembly Idler (Fig. A-10-5)

1) Unhook the Hook(H3) and push down the Arm Assembly Idler Jog.

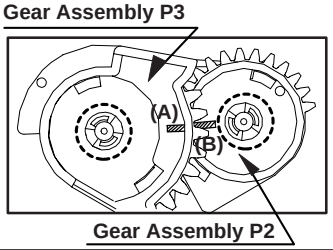
NOTE

1) Arm Assembly Idler Jog is for 4HD Models.
2) Arm Assembly Idler is for 2HD Models.

NOTE

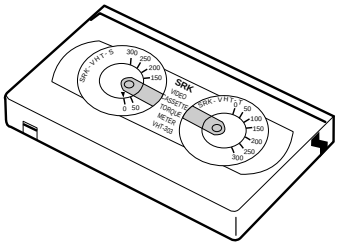
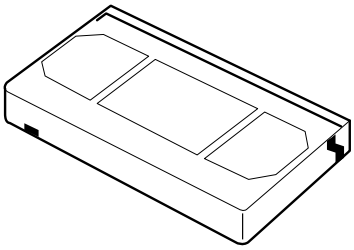
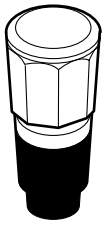
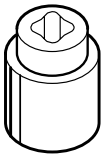
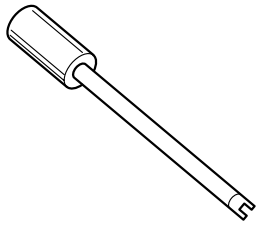
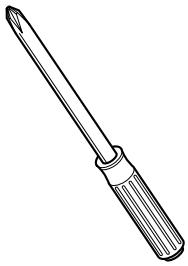
1) When reassembling, confirm that the (A) Part of the Gear Assembly P3 is aligned to the (B) Part of the Gear Assembly P2 as shown below.

(Unloading Condition)



DECK MECHANISM ADJUSTMENT

• Tools and Fixtures for Service

1. Cassette Torque meter SRK-VHT-303(Not SVC part) 	**2. Alignment tape (See figure below)** 	**3. Torque gauge 600g.Cm ATG** 
4. Torque gauge adaptor 	**5. Post height adjusting driver Parts No: SV-TGO-030-000 (SMALL) SV-TGO-020-000 (LARGE)** 	**6. + Type driver (ø 5)** 

ALIGNMENT TAPES FOR ADJUSTMENT

Derivation No. / Mechanism / Adjustment Items		A	B	C	D
		PAL	PAL	NTSC	NTSC
		SP/LP 2/4 Head	SP 2 Head	SP/LP/EP 2/4 Head	SP 2 Head
FM Envelope		TTV-P2L	TTV-P2	TTV-N1 (TTN-N12)	TTV-N2
A/C Head	Slantness	A commercially available tape			
	Height	TTV-P1 (TTV-P1L)	TTV-P1	TTV-N1 (TTV-N12) (TTV-N1E)	TTV-N1 (TTV-N12)
	Azimuth	TTV-P2	TTV-P2	TTV-N2	TTV-N2
X-value		TTV-P2 (TTV-P2L)	TTV-P2	TTV-N2 TTV-N2E TTV-N12	TTV-N2
RG Post Inclination		A commercially available tape			
Tape Back Tension		SRK-VHT-303			

The numbers in ( ) parenthesis can be used as the substiture.

DECK MECHANISM ADJUSTMENT

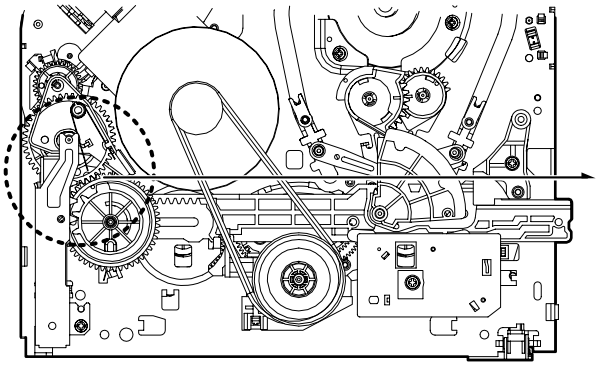
1.Mechanism Alignment Position Check

Purpose:To determine if the Mechanism is in the correct position, when a Tape is ejected.

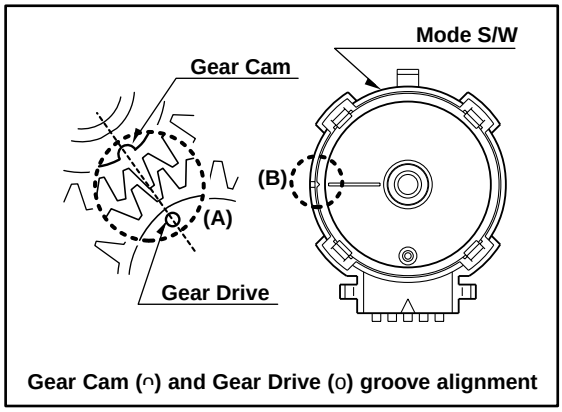
Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Check Point
• Blank tape	• Eject Mode (with Cassette ejected)	• Mechanism and Mode Switch Position

1) Turn the Power S/W on and eject the Cassette by pressing the Eject Button.
2) Remove the Top Cover and Plate Assembly Top, visually check if the Gear Cam Hole is aligned with the Chassis Hole as below Fig. C-2.
3) IF not, rotate the Shaft of the Loading Motor to either Clockwise or Counterclockwise until the Alignment is as below Fig. C-2.
4) Remove the Screw which fixes the Deck Mechanism and Main Frame and confirm if the Gear Cam is aligned with the Gear Drive as below Fig. C-1(A).
5) Confirm if the Mode S/W on the Main P.C.Board is aligned as below Fig. C-1(B).
6) Remount the Deck Mechanism on the Main P.C.Board and check each operation.

CHECK DIAGRAM

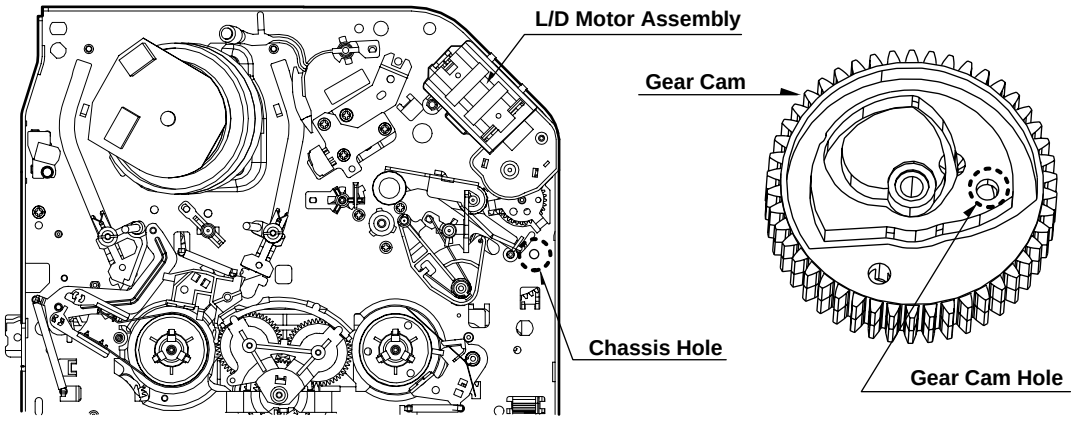


BOTTOM VIEW



Gear Cam (∩) and Gear Drive (o) groove alignment

Fig. C-1



TOP VIEW

Fig. C-2

DECK MECHANISM ADJUSTMENT

2. Preparation for Adjustment (To set the Deck Mechanism to the Loading state without inserting a Cassette Tape).

1) Unplug the Power Cord from the AC Outlet.
2) Disassemble the Top Cover and Plate Assembly Top.
3) Plug the Power Cord into the AC Outlet.
4) Turn the Power S/W on and push the Lever Stopper (L),(R) of the Holder Assembly CST to the back for Loading the Cassette without Tape.
Cover the Holes of the End Sensors at the both sides of the Bracket Side(L) and Bracket Assembly Door to prevent a light leak.
Then The Deck Mechanism drives to the Stop Mode.
In this case, The Deck Mechanism can accept inputs of each mode, however the Rewind and Review Operation can not be performed for more than a few seconds because the Take-up Reel Table is in the Stop State and can not be detected the Reel Pulses.

3. Checking Torque

Purpose: To insure smooth Transport of the Tape during each Mode of Operation. If the Tape Transport is abnormal, then check the Torque as indicated by the chart below.

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Checking Method
• Torque Gauge(600g/cm ATG) • Torque Gauge Adaptor • Cassette Torque Meter SRK-VHT-303	• Play (FF) or Review (REW) Mode	• Perform each Deck Mechanism Mode without inserting a Cassette Tape(Refer to above No.2 Preparation for Adjustment). • Read the Measurement of the Take-up or Supply Reels on the Cassette Torque Meter(Fig. C-3-2). • Attach the Torque Gauge Adaptor to the Torque Gauge and then read the Value of it(Fig. C-3-1).

Item	Mode	Test Equipment	Measurement Reel	Measurement Values
Fast Forward Torque	Fast Forward	Cassette Torque Gauge	Take-Up Reel	More than 400g/cm
Rewind Torque	Rewind	Cassette Torque Gauge	Supply Reel	More than 400g/cm
Play Take-Up Torque	Play	Cassette Torque Meter	Take-Up Reel	75~115g/cm
Review Torque	Review	Cassette Torque Meter	Supply Reel	130~200g/m

NOTE:

The Values are measured by using a Torque Gauge and Torque Gauge Adaptor with the Torque Gauge affixed.

• Cassette Torque Meter (SRK-VHT-303)

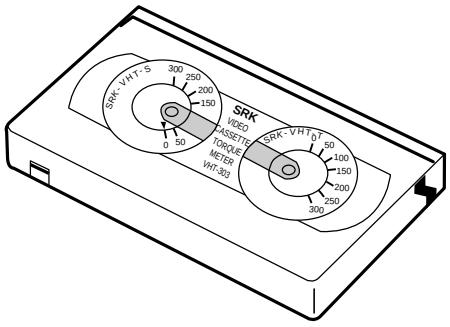


Fig. C-3-2

NOTE:

The Torque reading to measure occurs when the Tape abruptly changes direction from Fast Forward of Rewind Mode, when quick bracking is applied to both Reels.

• Torque Gauge (600g.cm ATG)

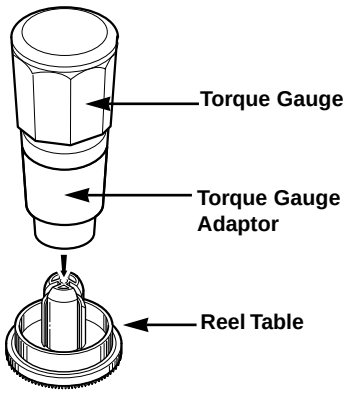


Fig. C-3-1

DECK MECHANISM ADJUSTMENT

4.Guide Roller Height Adjustment

Purpose: To regulate the Height of the Tape so that the Bottom of the Tape runs along the Tape Guide Line on the Lower Drum.

4-1. Preliminary Adjustment

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Post Height Adjusting Driver	• Play or Review Mode	• Guide Roller Height Adjustment screws on the Supply and Take-Up Guide Rollers.

Adjustment Procedure

1) Confirm if the Tape runs along the Tape Guide Line of the Lower Drum.
2) If the Tape runs the Bottom of the Guide Line, turn the Guide Roller Height Adjustment Screw to Clockwise direction.
3) If it runs the Top, turn to Counterclockwise direction.
4) Adjust the Height of the Guide Roller to be guided to the Guide Line of the Lower Drum from the Starting and Ending Point of the Drum.

ADJUSTMENT DIAGRAM

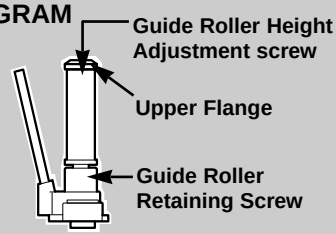


Fig. C-4-1

4-2. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Points	Test Conditions VCR(VCP) State	Adjustment Point
• Oscilloscope • Alignment Tape • Post Height Adjusting Driver	• CH-1:PB RF Envelope • CH-2:NTSC: SW 30Hz PAL: SW 25Hz • Head Switching Output Point • RF Envelope Output Point	• Play an Alignment Tape	• Guide Roller Height Adjustment Screws

Adjustment Procedure

1) Play an Alignment Tape after connecting the Probe of the Oscilloscope to the RF Envelope Output Test Point and Head Switching Output Test Point.
2) Tracking Control(in PB Mode) : Center Position(When this Adjustment is performed after the Drum Assembly has been replaced, set the Tracking Control so that the RF Output is Maximum).
3) Height Adjustment Screw : Flatten the RF Waveform. (Fig. C-4-2)
4) Turn(Move) the Tracking Control(in PB Mode) Clockwise and Counterclockwise.(Fig. C-4-3)
5) Check that any Drop of RF Output is uniform at the Start and End of the Waveform.

NOTE

If the adjustment is excessive or insufficient the tape will jam or fold.

Waveform Diagrams

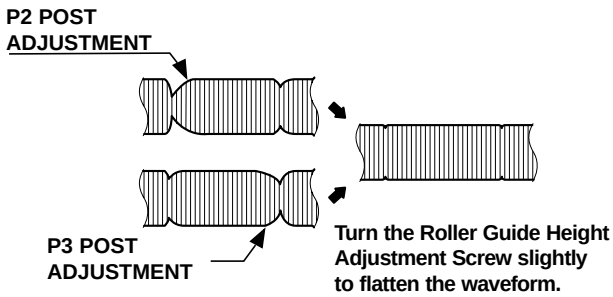


Fig. C-4-2

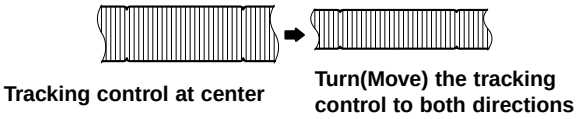
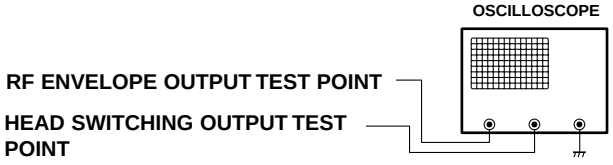


Fig. C-4-3

Connection Diagram



DECK MECHANISM ADJUSTMENT

5. Audio/Control (A/C) Head Adjustment

Purpose: To insure that the Tape passes accurately over the Audio and Control Tracks in exact Alignment in both the Record and Playback Modes.

5-1. Preliminary Adjustment (Height and Tilt Adjustment)

Perform the Preliminary Adjustment, when there is no Audio Output Signal with the Alignment Tape.

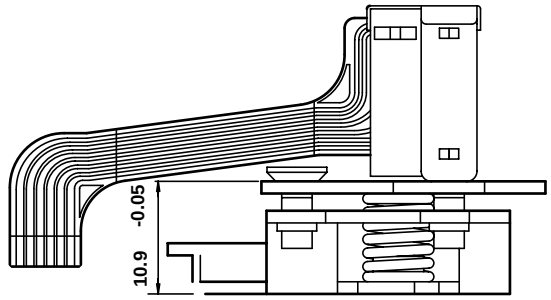
Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Blank Tape • Screw Driver(+) Type 5mm	• Play the blank tape	• Tilt Adjustment Screw(C) • Height Adjustment Screw(B) • Azimuth Adjustment Screw(A)

Adjustment Procedure/Diagrams

1) Initially adjust the Base Assembly A/C Head as shown Fig. C-5-1 by using the Height Adjustment Screw(B).
2) Play a Blank Tape and observe if the Tape passes accurately over the A/C Head without Tape Curling or Folding.
3) If Folding or Curling is occured then adjust the Tilt Adjustment Screw(C) while the Tape is running to resemble Fig. C-5-3.
4) Reconfirm the Tape Path after Playback about 4~5 seconds.

NOTE

Ideal A/C head height occurs, when the tape runs between 0.2~0.25mm above the bottom edge of the A/C head core.



A/C Head Base

Fig. C-5-1

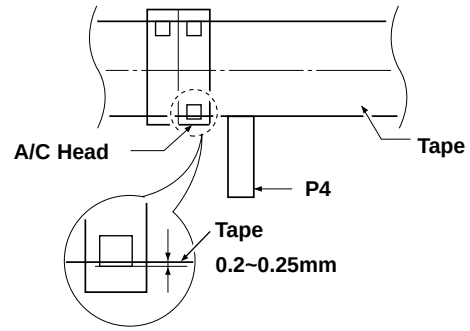
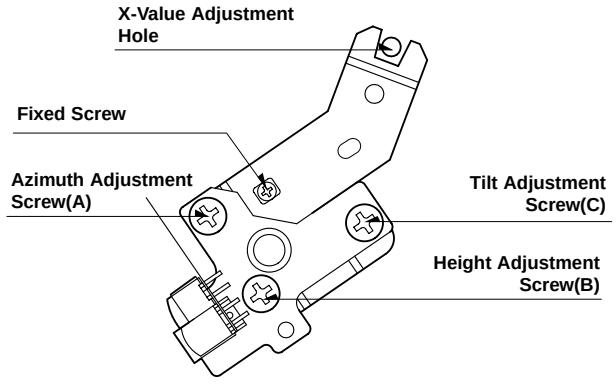


Fig. C-5-3



A/C Head Assembly

Fig. C-5-2

DECK MECHANISM ADJUSTMENT

5-2. Confirm that the Tape passes smoothly between the Take-up Guide and Pinch Roller(using a Mirror or the naked eye).

1) Afetr completing Step 5-1.(Preliminary Adjustment), check that the Tape passes around the Take-up Guide and Pinch Roller without Folding or Curling at the Top or Bottom.
   (1) If Folding or Curling is observed at the Bottom of the Take-up Guide then slowly turn the Tilt Adjustment Screw(C) in the Clockwise directioin.
   (2) If Folding or Curling is observed at the Top of it then slowly turn the Tilt Adjustment Screw(C) in the Counterclockwise direction.

NOTE:

Check the RF Envelope after adjusting the A/C Head, if the RF Waveform differs from Fig. C-5-4, performs Precise Adjustment to flat the RF Waveform.

5-3. Precise Adjustment (Azimuth adjustment)

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment Tape(SP) • Screw Driver(+) Type 5mm	• Audio output jack	• Play an Alignment Tape 1KHz, 7KHz Sections	• Azimuth Adjustment Screw(A) • Height Adjustment Screw(B)

Adjustment Procedure

1) Connect the Probe of the Oscilloscope to Audio Output Jack.
2) Alternately adjust the Azimuth Adjustment Screw(A) and the Tilt Adjustment Screw(C) for Maximum Output of the 1Khz and 7Khz segments, while maintaining the flattest Envelope differential between the two Frequencies.

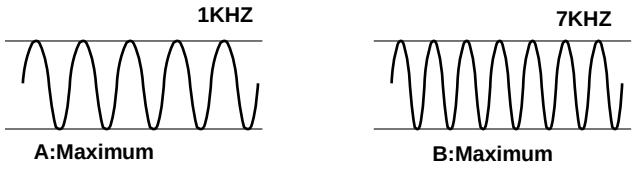
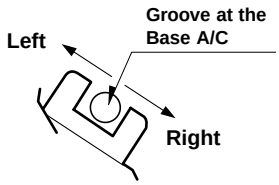


Fig. C-5-4

6. X-Value Adjustment

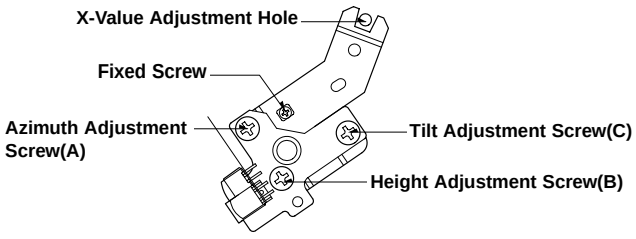
Purpose: To obtain compatibility with other VCR(VCP) Models.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment tape(SP only) • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Swithching Output Test Point • RF Envelope Output Test Point	• Play an Alignment Tape	

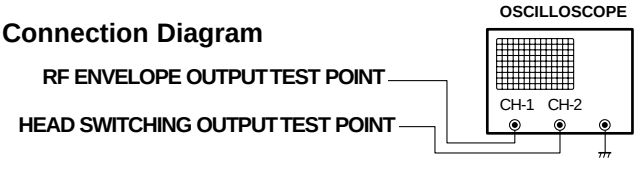
Adjustment Procedure

1) Insert the alignment tape, and press the + or - manual tracking (channel) button once while "AUTO TRACKING" is flashing on the screen to release auto tracking, and then center the tracking.
2) Run the tape long enough for tracking to complete one cycle.
3) Loosen the fixing screw, and move the A/C head base assembly in the direction shown in the diagram, to find the center of the peak so that the maximum envelope is available.
   With this method, the 31-µm head can trace on the centerof 58-µm track.
4) Tighten the A/C head base assembly fixing screw.

Adjustment Diagram



Connection Diagram



DECK MECHANISM ADJUSTMENT

7. Adjustment after Replacing Drum Assembly (Video Heads)

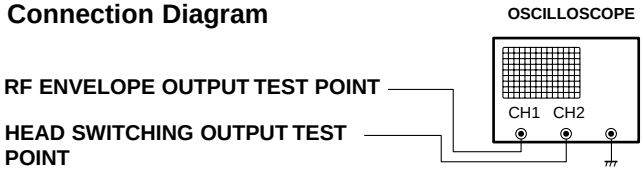
Purpose: To correct for shift in the Roller Guide and X value after replacing the Drum.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Points
• Oscilloscope • Alignment tapes • Blank Tape • Post Height Adjusting Driver • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Swithching Output Test Point • RF Envelope Output Test Point	• Play the blank tape • Play an alignment tape	• Guide Roller Precise Adjustment • Switching Point • Tracking Preset • X-Value

Checking/Adjustment Procedure

Play a blank tape and check for tape curling or creasing around the roller guide. If there is a problem then follow the procedure 4. "Guide Roller Height" and 5. "Audio Control(A/C) Head Adjustment".

Connection Diagram



Waveform

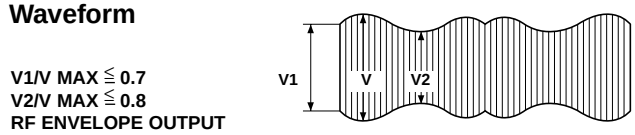


Fig. C-7

8. Check the Tape Travel after Reassembling Deck Assembly.

8-1.Check Audio and RF Locking Time during playback and after CUE or REV (FF/REW)

Test Equipment/ Fixture	Specification	Connection Points	Test Conditions (Mecanism Condition)
• Oscilloscope • Alignment tapes(with 6H 3kHz Color Bar Signal) • Stop Watch	• RF Locking Time: Less than 5 sec. • Audio Locking Time:Less than 10sec	• CH-1: PB RF Envelope • CH-2: Audio Output • RF Envelope Output Point • Audio Ouptut Jack	• Play an alignment tape (with 6H 3kHz Color Bar Signal)

Checking Procedure

Play an alignment tape then change the operating mode to CUE or REV and confirm if the unit meets the above listed specifications.

NOTES:

1) CUE is fast forward mode (FF)
2) REV is the rewind mode (REW)
3) Referenced to the Play mode

8-2.Check for tape curling or jamming

Test Equipment/ Fixture	Specification	Test Conditions (Mecanism Condition)
• T-160 Tape • T-120 Tape	• Be sure there is no tape jamming or curling at the begining, middle or end of the tape.	• Run the CUE, REV play mode at the beginning and the end of the tape.

Checking Procedure

1) Confirm that the tape runs smoothly around the roller guides, drum and A/C head assemblies while abruptly changing operating modes from Play to CUE or REV. This is to be checked at the begining, middle and end sections of the cassette.
2) Confirm that the tape passes over the A/C head assembly as indicated by proper audio reproduction and proper tape counter performance.

MAINTENANCE/INSPECTION PROCEDURE

1 Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.
Check with the customer to find out how often the unit is used, and then determine that the unit is ready for inspection and maintenance. Check the following parts.

Phenomenon	Inspection	Replacement	
Color beats	Dirt on full-erase head	o	F/E Head
Poor S/N, no color	Dirt on video head	o	Video Head
Vertical or Horizontal jitter	Dirt on video head Dirt on tape transport system	o	
Low volume, Sound distorted	Dirt on Audio/control head	o	A/C Head
Tape does not run. Tape is slack	Dirt on pinch roller	o	Pinch Roller Belt Capston
In Review and Unloading (off mode), the Tape is rolled up loosely.	Clutch Ass'y S27 Torque reduced	o	Clutch Assembly D33
	Cleaning Drum and transport system	Fig. C-9-3	

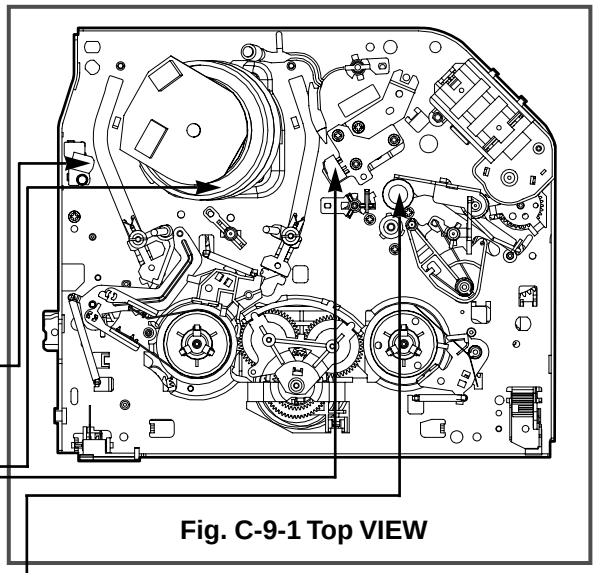


Fig. C-9-1 Top VIEW

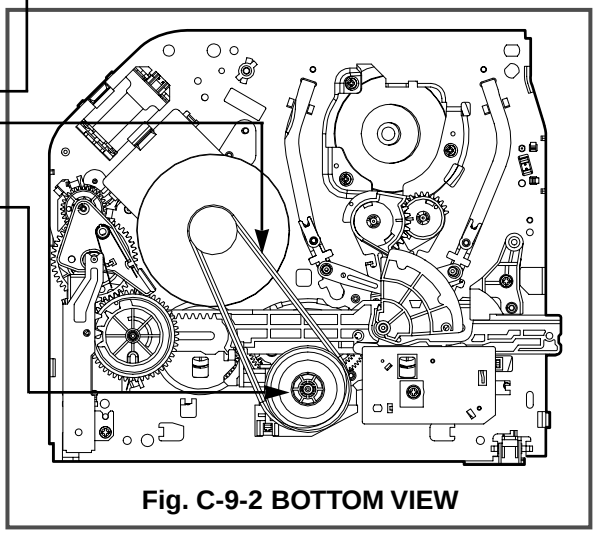


Fig. C-9-2 BOTTOM VIEW

NOTE

If locations marked with **o** do not operate normally after cleaning, check for wear and replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations See the Greasing (Page 79) for the sections to be lubricated and greased.

*** No. (1)~(13) Indicates the Tape Path to be traveled from Supply Reel to Take-up Reel.**

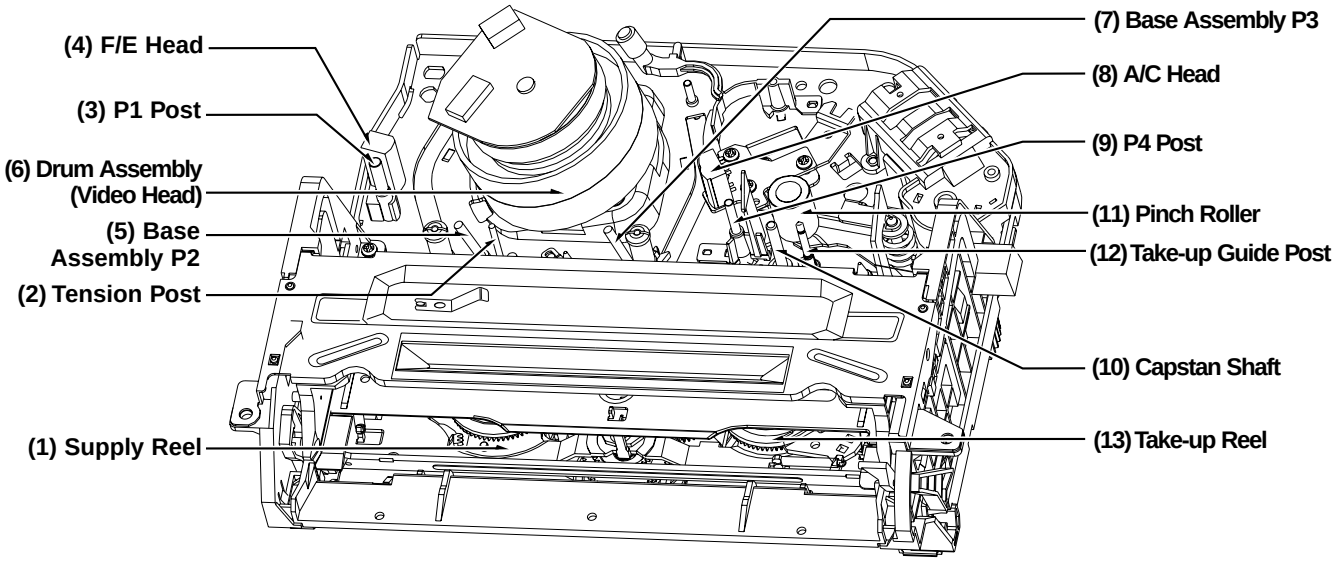


Fig. C-9-3 Tape Transport System

MAINTENANCE/INSPECTION PROCEDURE

2. Required Maintenance

The recording density of a VCR(VCP) is much higher than that of an audio tape recorder. VCR(VCP) components must be very precise, at tolerances of 1/1000mm, to ensure compatiblity with other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure a good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, is necessary.

3. Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR(VCP), and the environment in which the VCR(VCP) is used.
But, in general home use, a good picture will be maintained if inspection and maintenance is made every 1,000 hours. The table below shows the relation between time used and inspection period.

Table 1

When inspection is necessary / Average hours used per day	About 1 year	About 18 months	About 3 years
One hour	■	■	■
Two hours	■	■	
Three hours	■		

4. Supplies Required for Inspection and Maintence

(1) Grease : Kanto G-311G (Blue) or equivalent
(2) Isopropyl Alcohol or equivalent
(3) Cleaning Patches
(4) Grease : Kanto G-381(Yellow) : Used only for Reel S and Reel T

5) Maintenance Procedure
5-1) Cleaning

(1) Cleaning video head
First use a cleaning tape. If the dirt on the head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with Isopropyl Alcohol. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.
(Do not move the cleaning patch vertically. Make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)
Thoroughly dry the head. Then run the test tape. If Isopropyl Alcohol remains on the video head, the tape may be damaged when it comes into contact with the head surface.
(2) Clean the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with Isporopyl Alcohol.

NOTES:

① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which moves the tape.
② Make sure that during cleaning you do not touch the tape transport system with the tip of a screw driver and no that force is that would cause deforming or damage applied to the system.

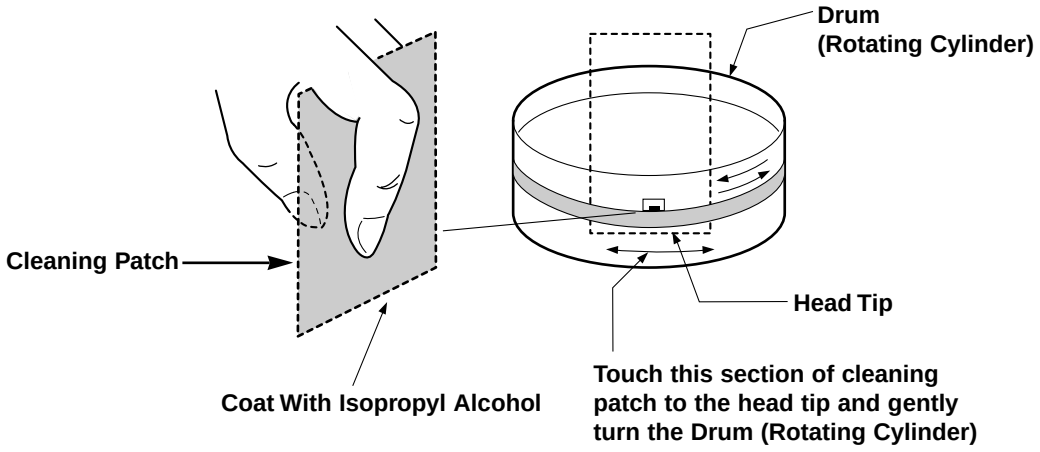

Drum
(Rotating Cylinder)
Cleaning Patch
Head Tip
Coat With Isopropyl Alcohol
Touch this section of cleaning patch to the head tip and gently turn the Drum (Rotating Cylinder)

Fig. C-9-4

MAINTENANCE/INSPECTION PROCEDURE

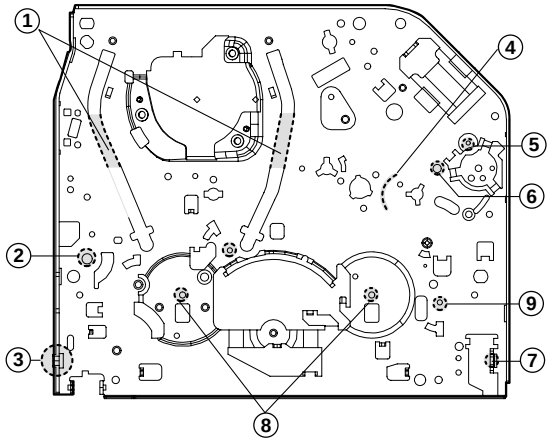
5-2) Greasing

(1) Greasing guidelines

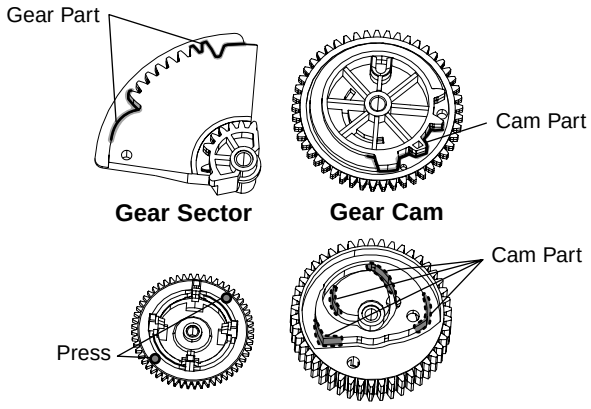
Apply grease, with a cleaning patch. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with clean ing patch wetted in Isopropyl Alcohol.

NOTE:Greasing Points

1) Loading Path Inside & Top side
2) Base Tension Boss inside Hole
3) Arm Assembly F/L "U" Groove
4) Arm Take-up Rubbing Section
5) L/D Motor Worm Wheel Part
6) Shaft
7) Arm Assembly F/L of Buming Inside Hole
8) Reel S, T Shaft (G381:Yellow)
9) Brake T Groove

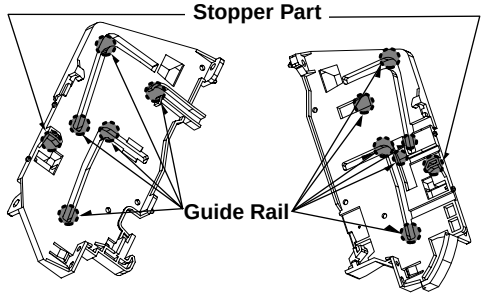


Chassis (Top)



Gear Sector **Gear Cam**

Gear Assembly Up/D **Gear Drive**

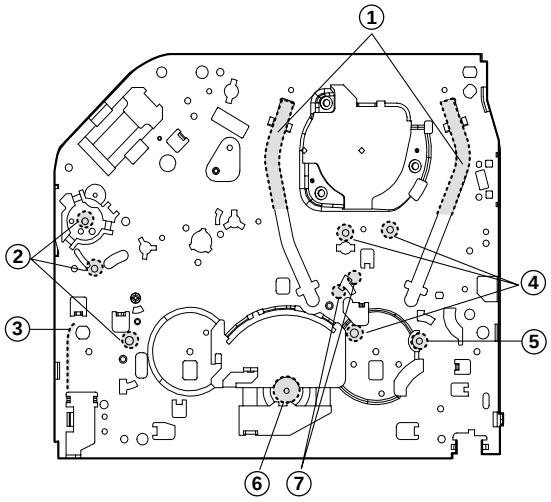


Bracket Side (L) **Bracket Assembly Door**

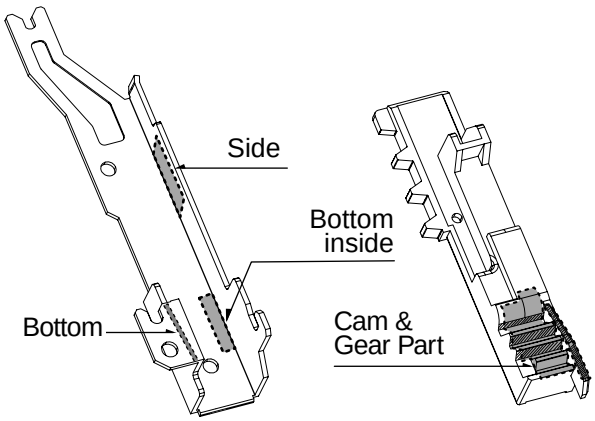
(2) Periodic greasing

Grease specified locations every 5,000 hours.

1) Loading Path Inside & Top side
2) Shaft
3) Gear Rack F/L Moving Section
4) Shaft
5) Lever Tension Groove
6) Clutch Assembly D33 Shaft
7) Brake "S" Rubbing Section



Chassis (Bottom)



Guide Rack F/L **Gear Rack F/L**

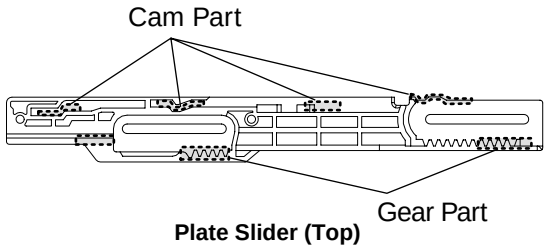


Plate Slider (Top)

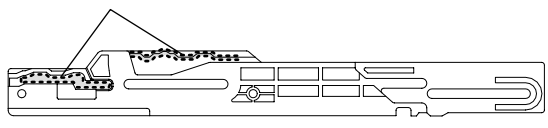
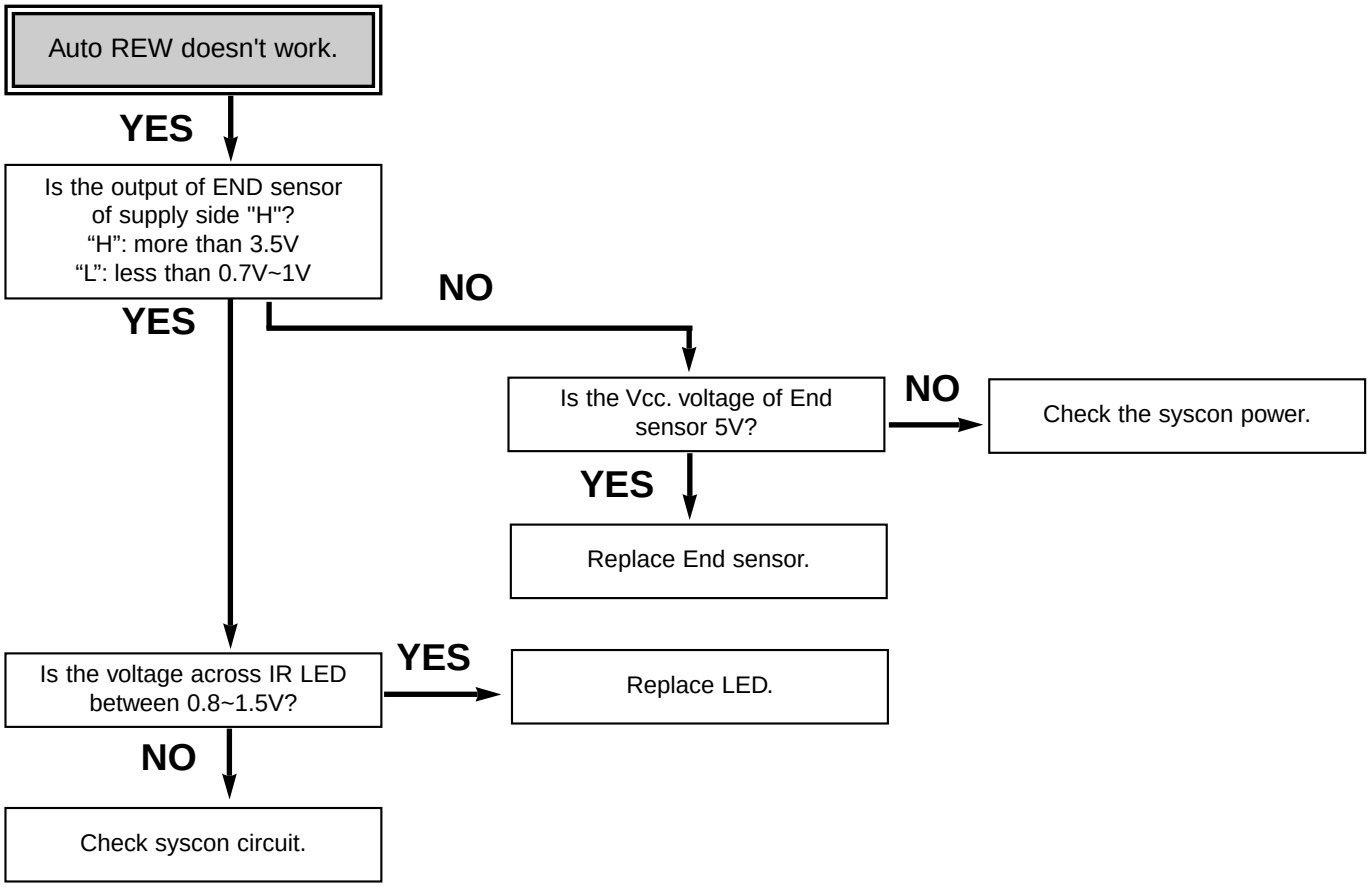


Plate Slider (Bottom)

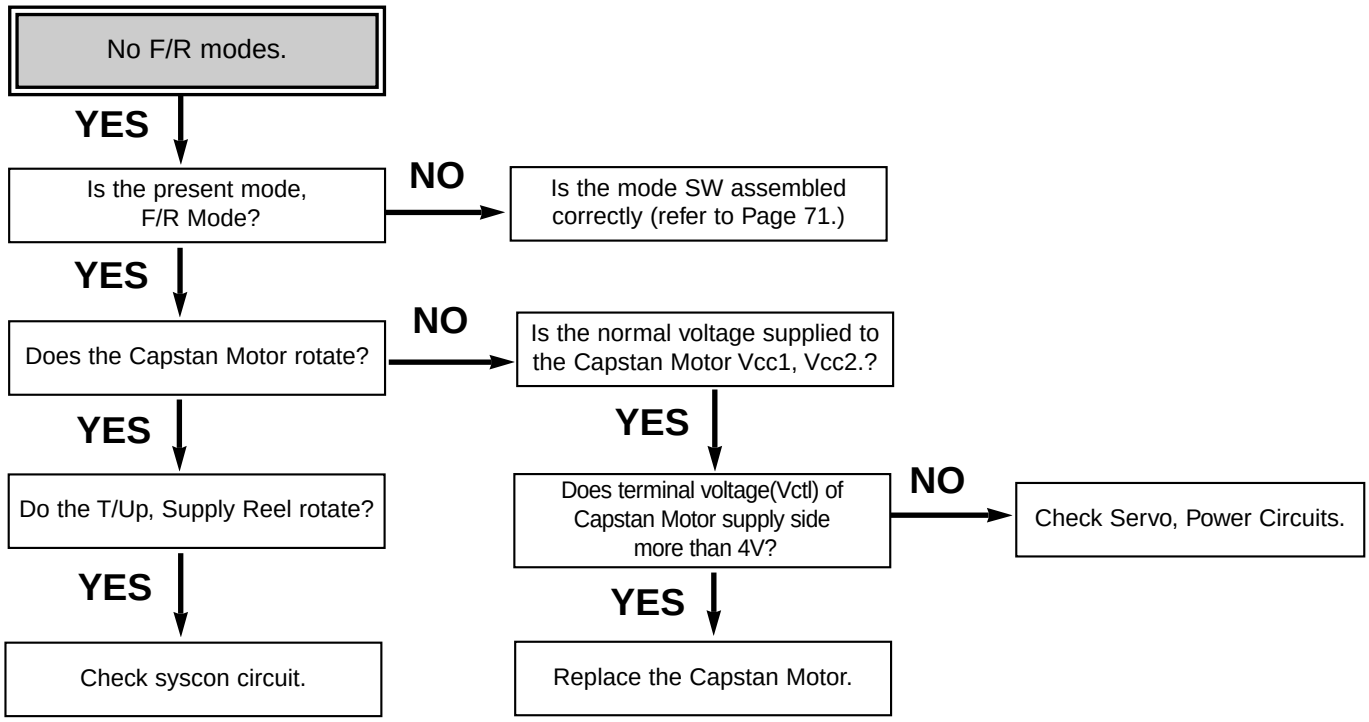
MECHANISM TROUBLESHOOTING GUIDE

1.Deck Mechanism

A.

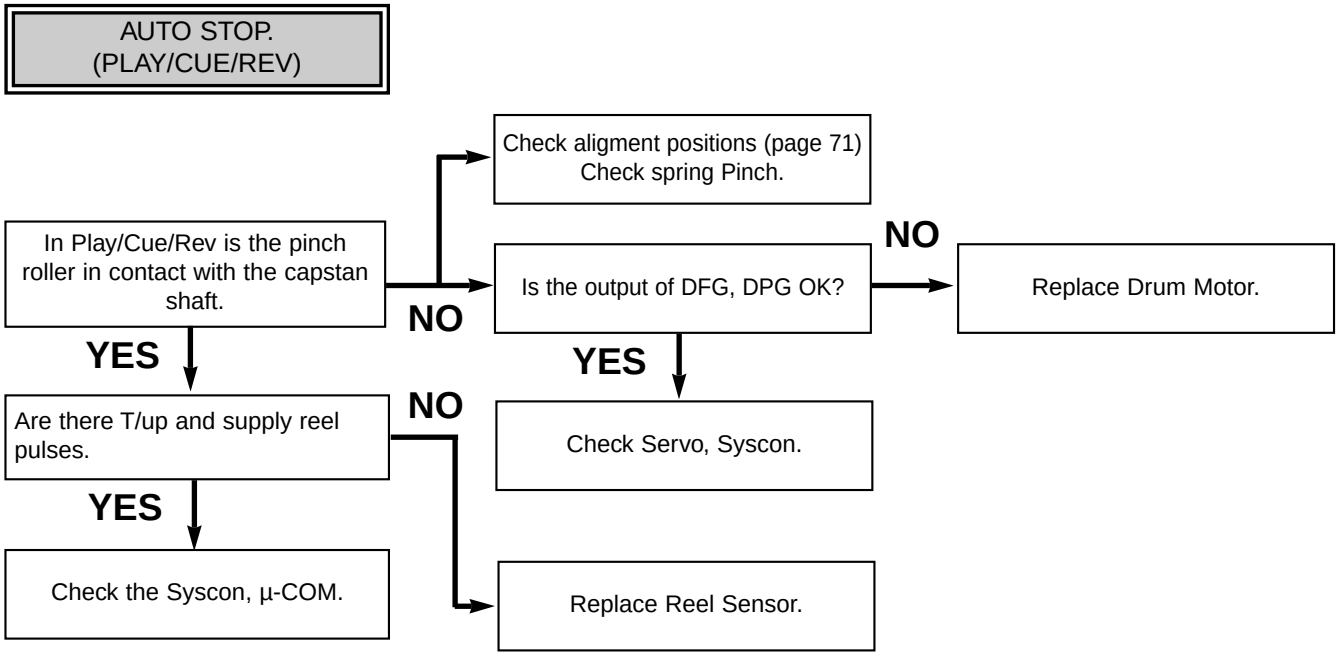


B.



MECHANISM TROUBLESHOOTING GUIDE

C.



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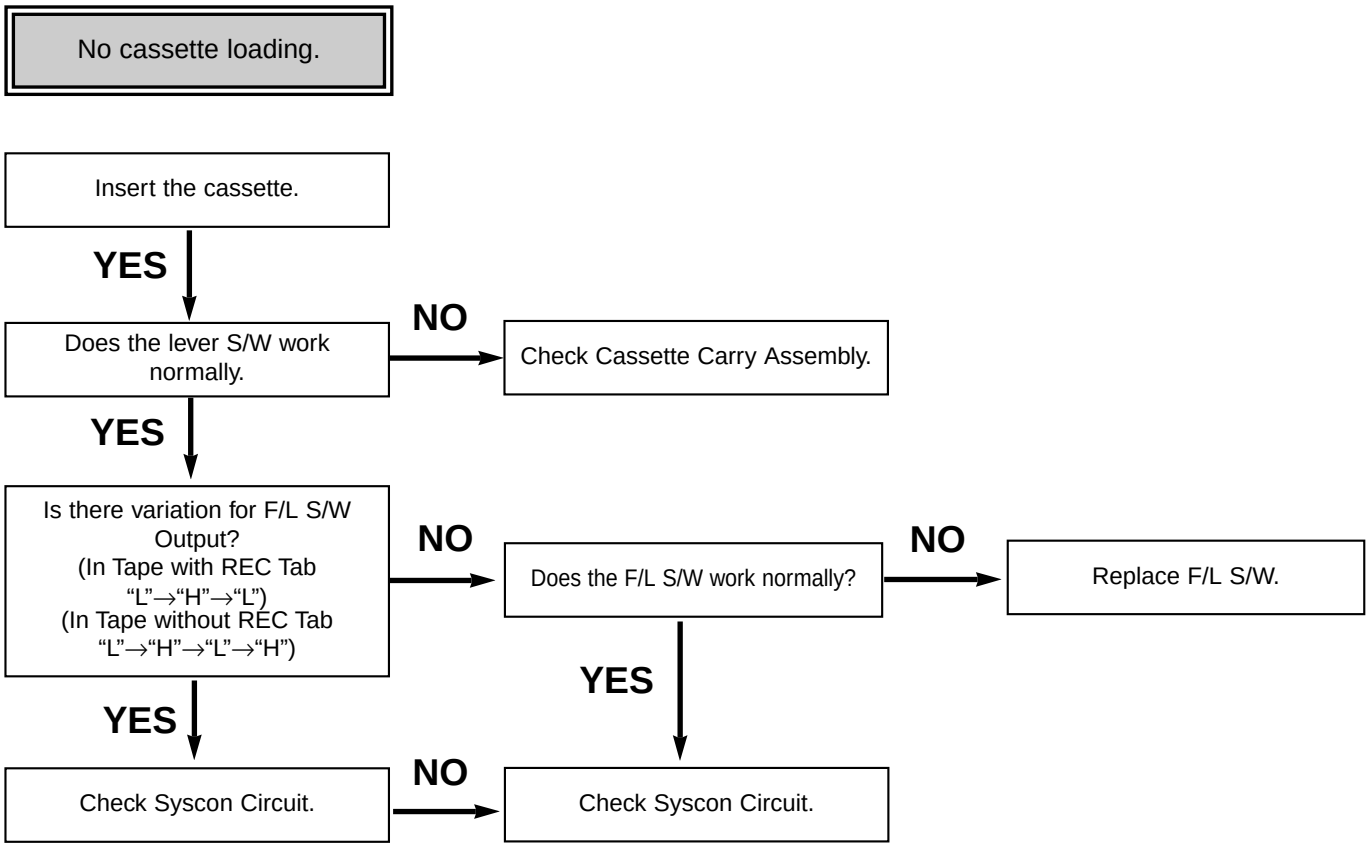

MECHANISM TROUBLESHOOTING GUIDE

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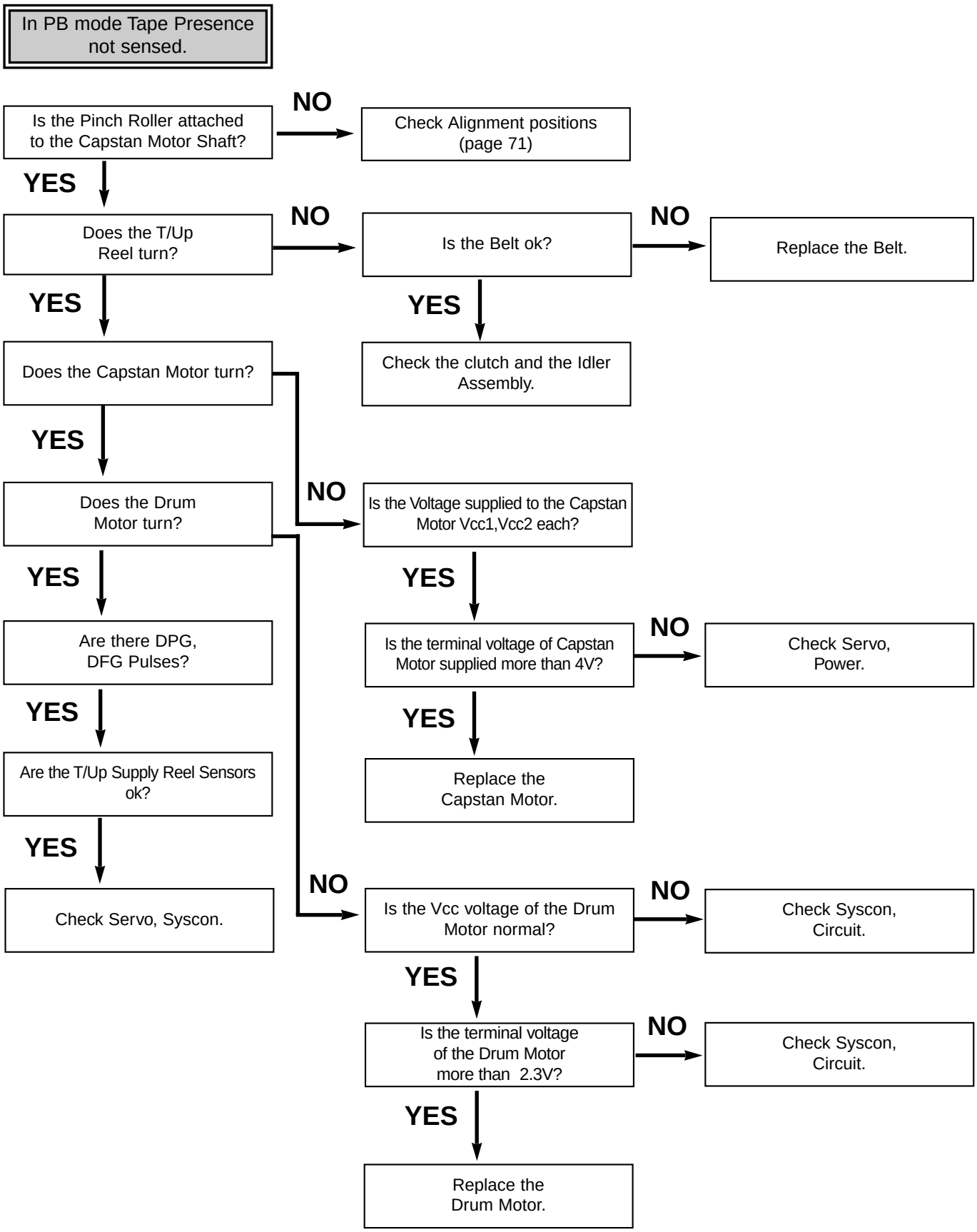
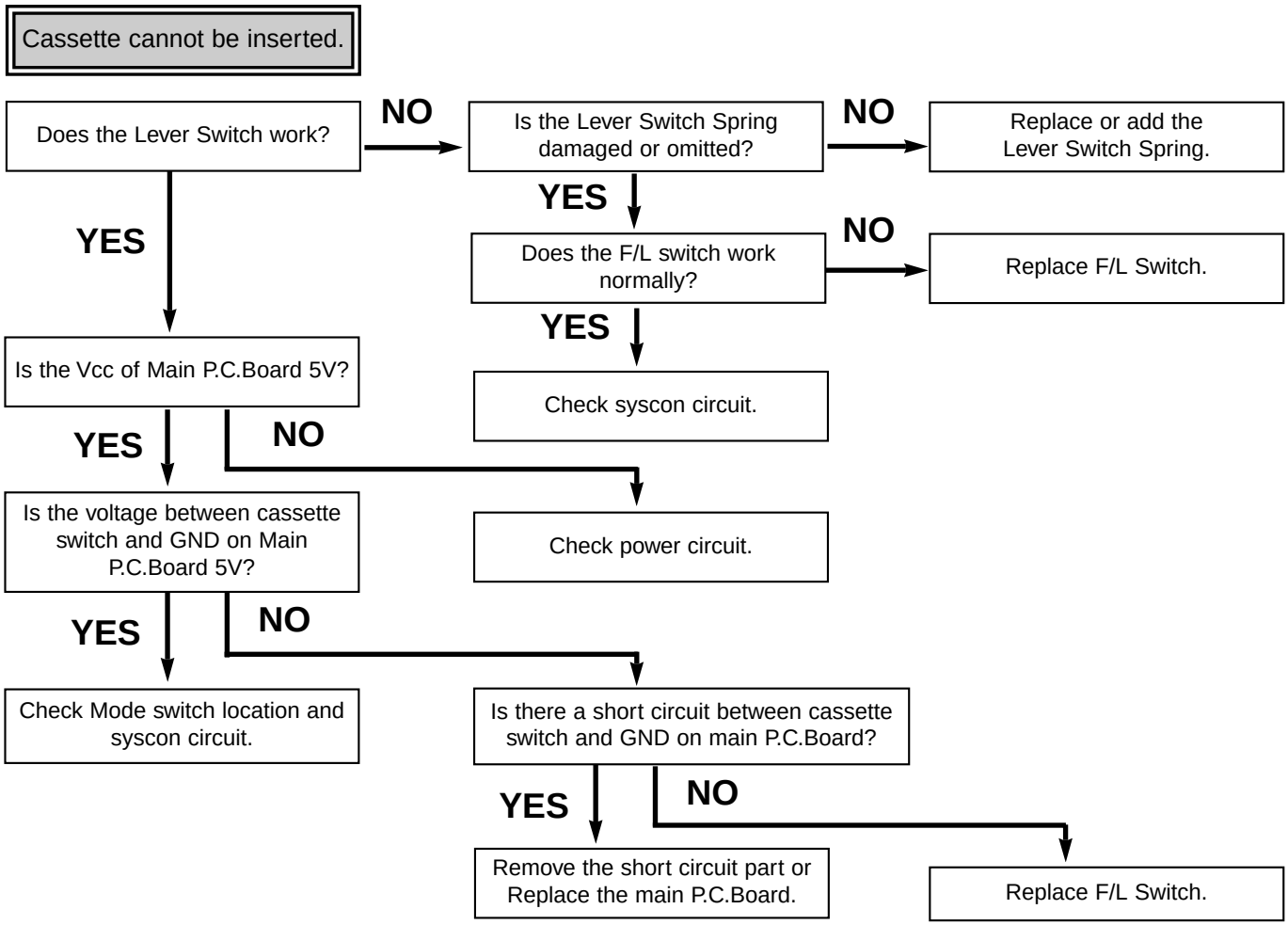


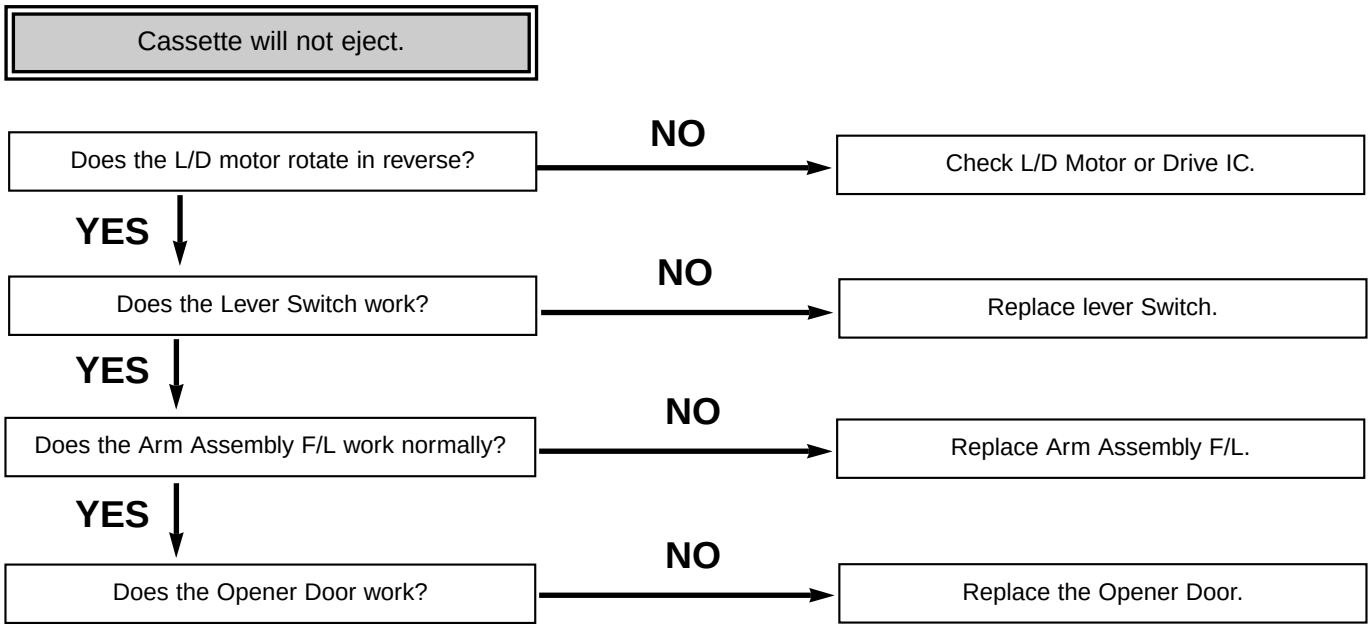
MECHANISM TROUBLESHOOTING GUIDE

2. Front Loading Mechanism

A.

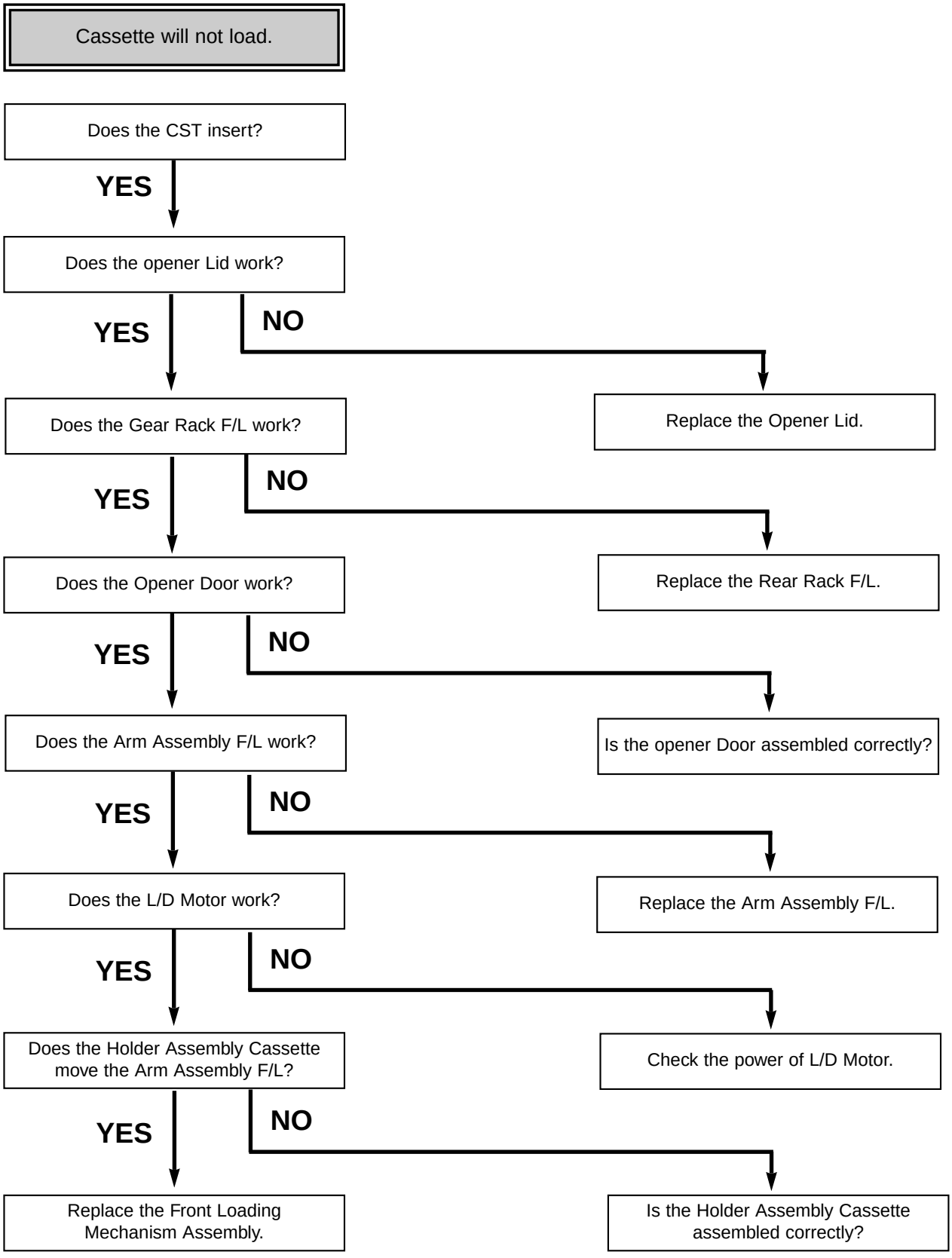

Cassette cannot be inserted.
Does the Lever Switch work?
NO
Is the Lever Switch Spring damaged or omitted?
NO
Replace or add the Lever Switch Spring.
YES
YES
Does the F/L switch work normally?
NO
Replace F/L Switch.
YES
Is the Vcc of Main P.C.Board 5V?
Check syscon circuit.
YES
NO
Is the voltage between cassette switch and GND on Main P.C.Board 5V?
Check power circuit.
YES
NO
Check Mode switch location and syscon circuit.
Is there a short circuit between cassette switch and GND on main P.C.Board?
YES
NO
Remove the short circuit part or Replace the main P.C.Board.
Replace F/L Switch.

B.



MECHANISM TROUBLESHOOTING GUIDE

C.



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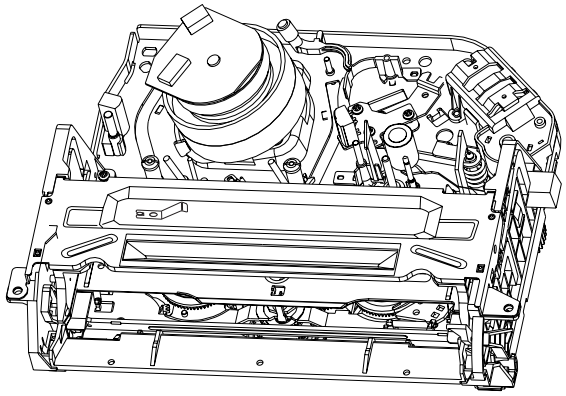

SERVICE MANUAL

VIDEO MECHANISM

TYPE
P2 LRN106A
P4 LRN133A

aiwa

S/M Code No. 09-99B-336-8N2

DATA

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MECHANISM MAIN PARTS LIST 3/3 37

REMOVING CASSETTE MANUALLY

1. Remove the loading motor.

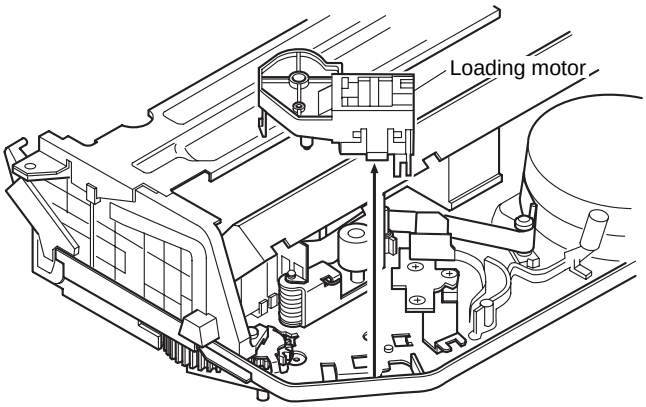


Fig. 1

2. Turn the gear connect in the direction of the arrow with you finger to perform unsledding.

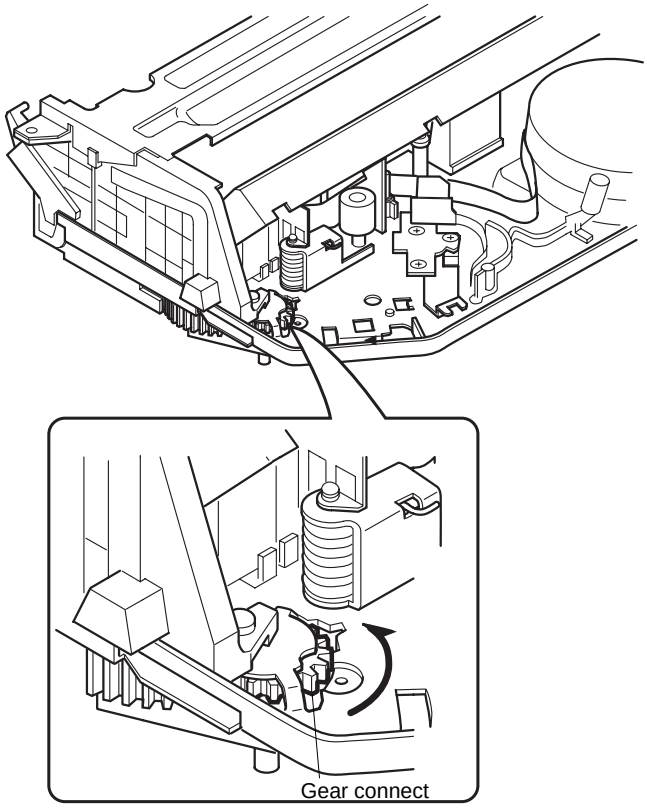


Fig. 2

3. Turn the capstan belt to take up slack tape.

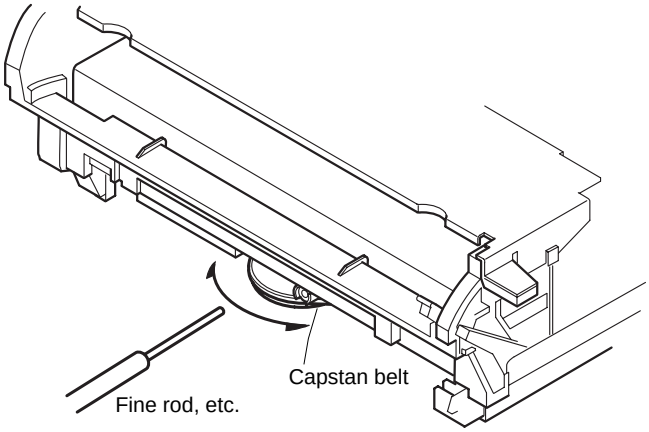
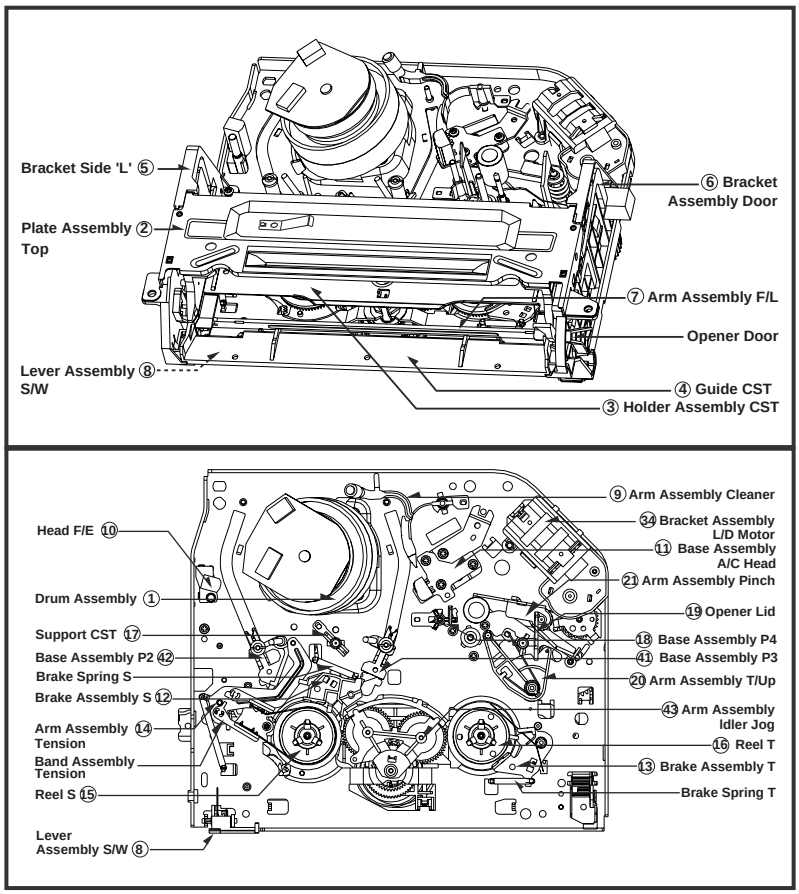


Fig. 3

4. Turn the gear connect in the direction of the arrow with you finger to perform unloading.

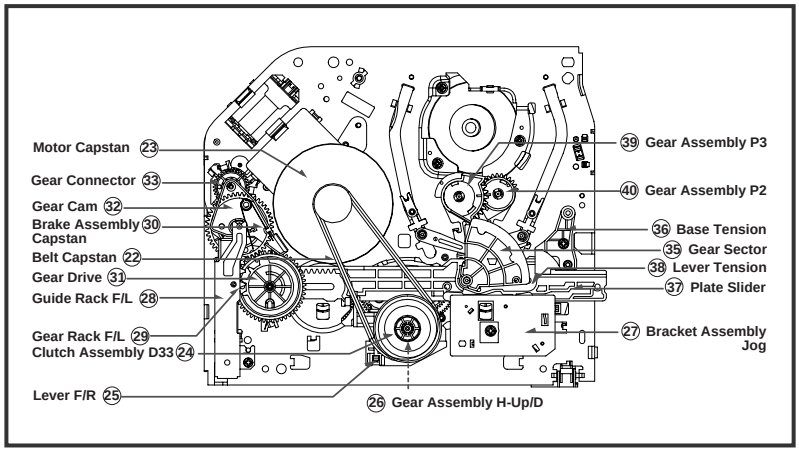
DECK MECHANISM PARTS LOCATIONS

• Top View



Procedure / Starting No.		Part	Fixing Type	Figure
	1	Drum Assembly	3 Screws , Cap FPC	A-1
	2	Plate Assembly Top	Two Hooks	A-2
2	3	Holder Assembly CST	Chassis Hole	A-2
	4	Guide CST	2 Hooks	A-2
2,3,4	5	Bracket Side (L)	1 Screw	A-2
2,3,4	6	Bracket Assembly Door	1 Screw	A-2
2,3,4,5,6	7	Arm Assembly F/L	Chassis Hole	A-2
2,3,4,5	8	Lever Assembly S/W	Chassis Hole	A-2
	9	Arm Assembly Cleaner	Chassis Embossing	A-3
	10	Head F/E	2 Hooks	A-3
	11	Base Assembly A/C Head	1 Screw	A-3
	12	Brake Assembly S	Chassis Hole	A-4
2,3	13	Brake Assembly T	Chassis Hole	A-4
2,3,12,	14	Arm Assembly Tension	Chassis Hole	A-4
2,3,12,14	15	Reel S	Chassis Shaft	A-4
2,3,13	16	Reel T	Chassis Shaft	A-4
	17	Support CST	Chassis Embossing	A-5
	18	Base Assembly P4	Chassis Embossing	A-5
	19	Opener Lid	Chassis Embossing	A-5
19	20	Arm Assembly T/Up	Chassis Embossing	A-5
19	21	Arm Assembly Pinch	Chassis Shaft	A-5

• Bottom View



Procedure / Starting No.		Part	Fixing Type	Figure
	22	Belt Capstan		A-6
22	23	Motor Capstan	3 Screws	A-6
	24	Clutch Assembly D33	1 Washer	A-6
22,24	25	Lever F/R	1 Hook	A-6
22,24	26	Gear Assembly H-Up/D	2 Washers	A-6
	27	Bracket Assembly Jog	1 Screw	A-7
	28	Guide Rack F/L	1Screw	A-7
28	29	Gear Rack F/L		A-7
28, 29	30	Brake Assembly Capstan	Chassis Shaft	A-7
28, 29	31	Gear Drive	1 Washer	A-8
28, 29, 30	32	Gear Cam	Chassis Shaft	A-8
28, 29, 30, 31	33	Gear Connector	Chassis Shaft	A-8
	34	Bracket Assembly L/D Motor	3 Hooks	A-8
	35	Gear Sector	3 Washers	A-9
	36	BaseTension	1 Screw	A-9
22, 24, 25, 27 28, 29, 31, 35 36	37	Plate Slider	Chassis Shaft	A-9
22, 24, 25, 27 28, 29, 31, 35 36	38	Lever Tension	Chassis Hole	A-9
35	39	Gear Assembly P3	2 Hooks	A-10
35, 39	40	Gear Assembly P2	2 Hooks	A-10
35, 39, 40	41	Base Assembly P3	Chassis Hole	A-10
35, 39, 40, 41	42	Base Assembly P2	Chassis Hole	A-10
1, 2	43	Arm Assembly Idler Jog	1 Hook	A-10

NOTE : When reassembly perform the procedure in the reverse order.

1) When reassembling, confirm Mechanism and Mode Switch Alignment Position (Pefer to Page 17)
2) When disassembling, the Parts for Starting No. Should be removed first.

DECK MECHANISM DISASSEMBLY

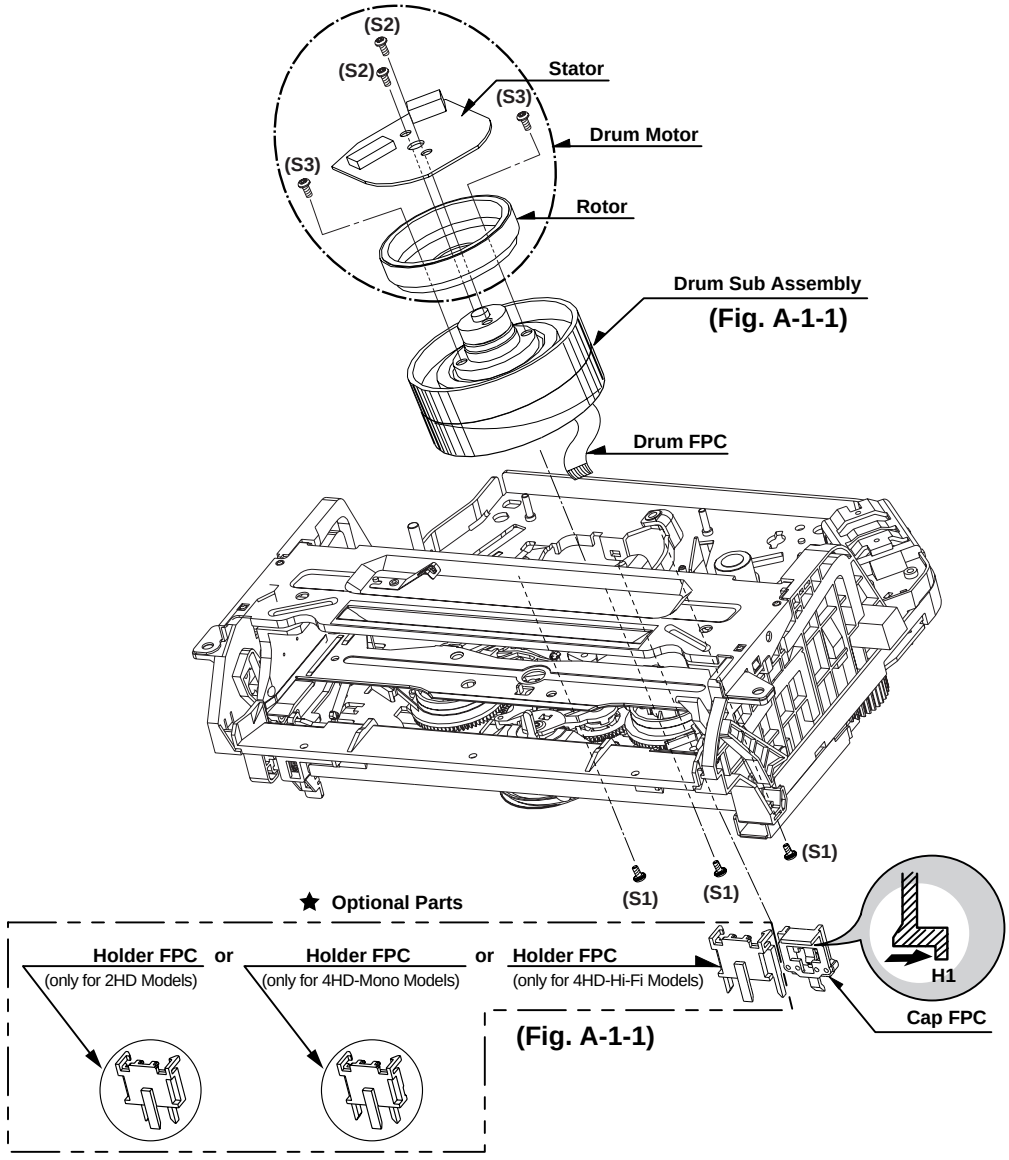


Fig. A-1

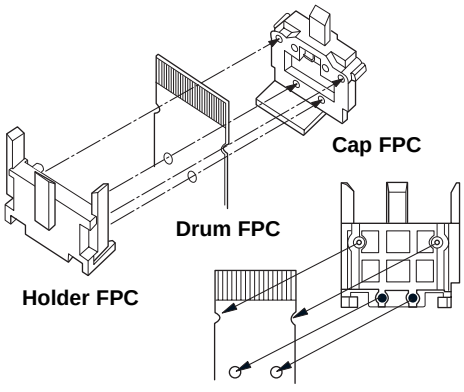
1. Drum Assembly (Fig. A-1-1)

1) Unhook the (H1) on the back side of the Chassis and separate the Cap FPC.
2) Remove three Screws (S1) and lift up the Drum Assembly.
3) Remove two Screws (S2) and Separate the Stator of Drum Motor.
4) Remove two Screws (S3) and Separate the Rotor of Drum Motor from the Drum Sub Assembly.

NOTE

(1) When reassembling Cap FPC, two Holes of Drum FPC are inserted to the two Bosses of Holder FPC correctly. (Refer to Fig. B-1)

(Fig. B-1)



DECK MECHANISM DISASSEMBLY

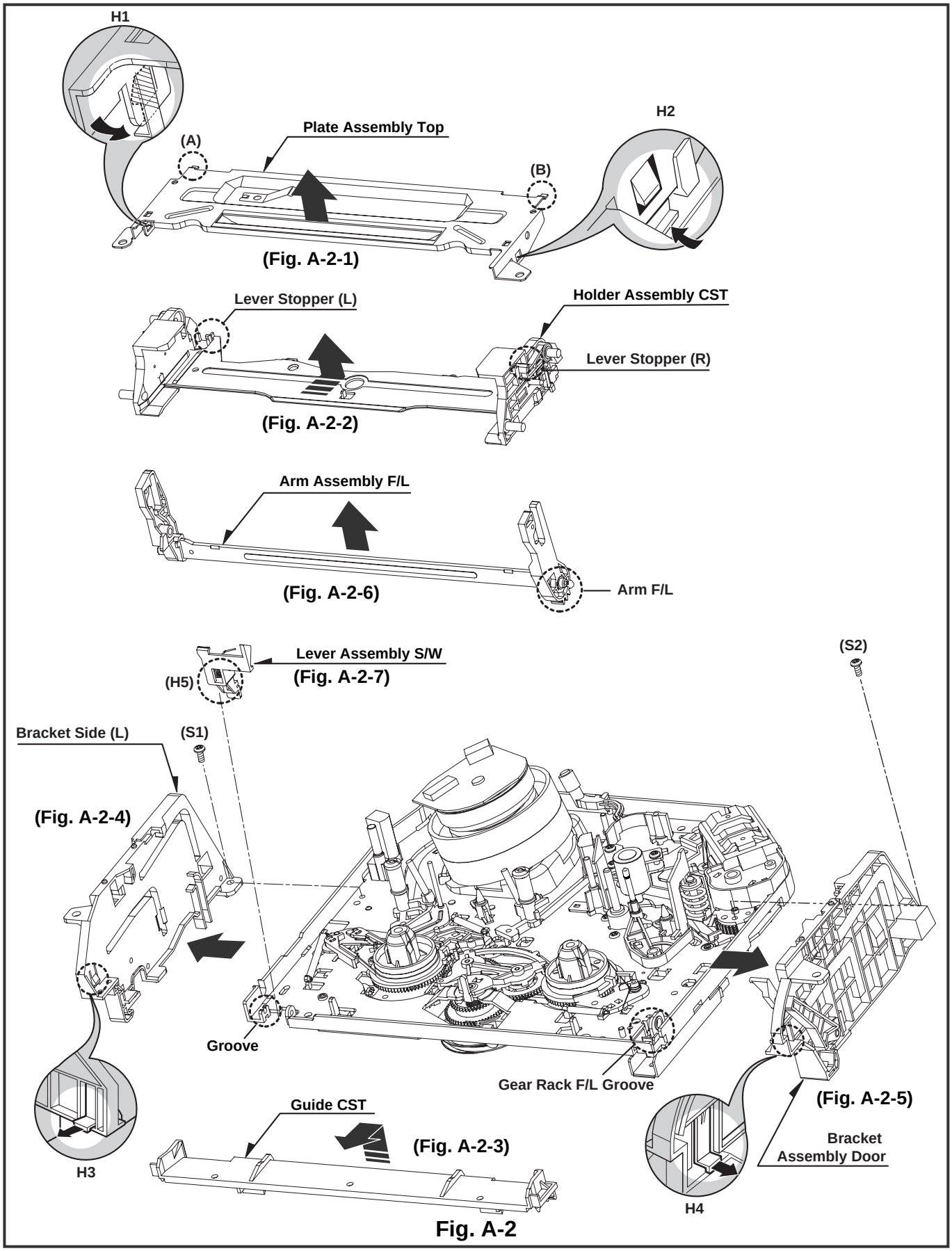


Fig. A-2

DECK MECHANISM DISASSEMBLY

2. Plate Assembly Top (Fig. A-2-1)

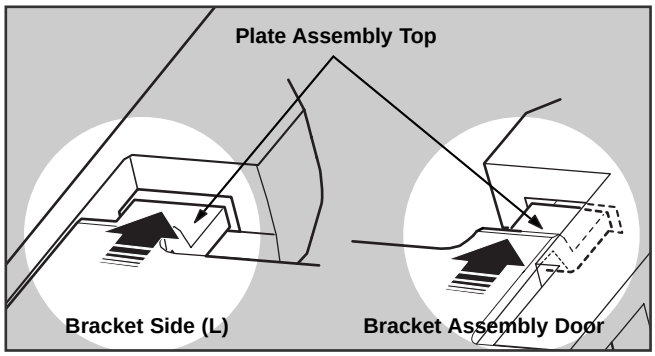
1) Unhook the (H1) and separate the Left Side.
2) Unhook the (H2) and lift up the Plate Assembly Top.

NOTE

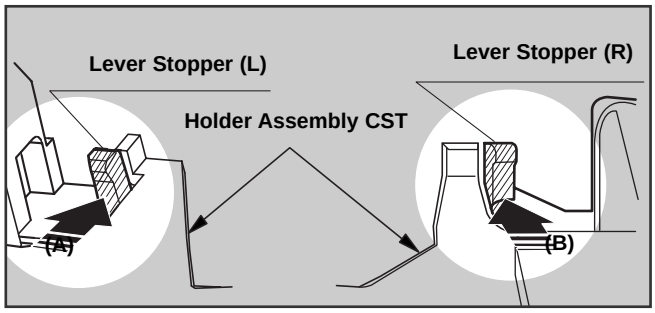
(1) When reassembling, confirm (A),(B) Part of the Plate Assembly Top is inserted to the (L),(R) Grooves of the Bracket Side(L) and Bracket Assembly Door.

3. Holder Assembly CST (Fig.A-2-2)

1) Push the Lever Stopper(L),(R) in the direction of the arrows (A), (B), and move the Holder Assembly CST.

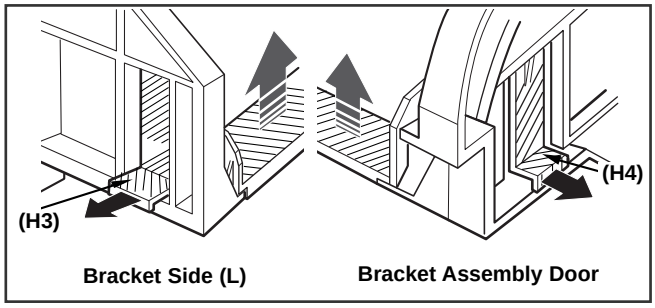


2) Push the Bracket Assembly Door to the right and lift up the Holder Assembly CST along the Guide Groove of the Bracket Assembly Door.



4. Guide CST (Fig.A-2-3)

1) Push two Hooks(H3),(H4) in the direction of the arrow and separate the left side.
2) Unhook (H5),(H6) as above No.1) and disassemble the Guide CST in the direction of the arrow.



5. Bracket Side(L) (Fig. A-2-4)/ Bracket Assembly Door (Fig.A-2-5)

1) Remove the Screw (S1) and disassemble the Bracket Side(L) in the front.
2) Remove the Screw (S2) and disassemble the Bracket Assembly Door in the front.

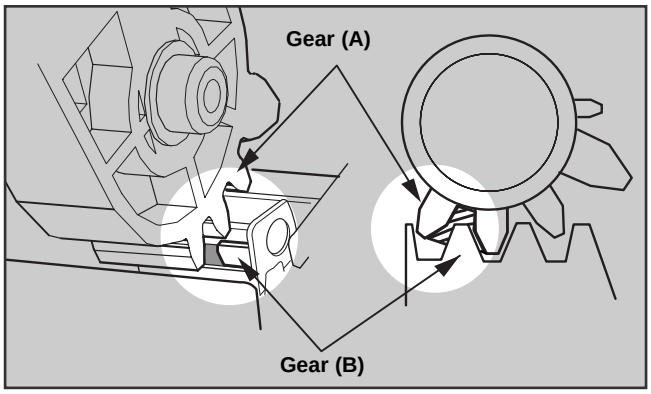
6. Arm Assembly F/L (Fig. A-2-6)

1) Push the Arm Assembly F/L to the left and lift up it.

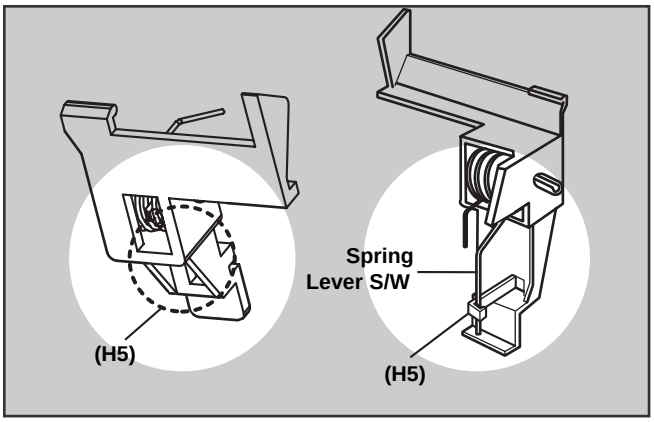
NOTE

(1) When reassembling, confirm that the Gear(A) of the Arm F/L and the Gear(B) of the Gear Rack F/L are assembled as below.

7. Lever Assembly S/W (Fig. A-2-7)

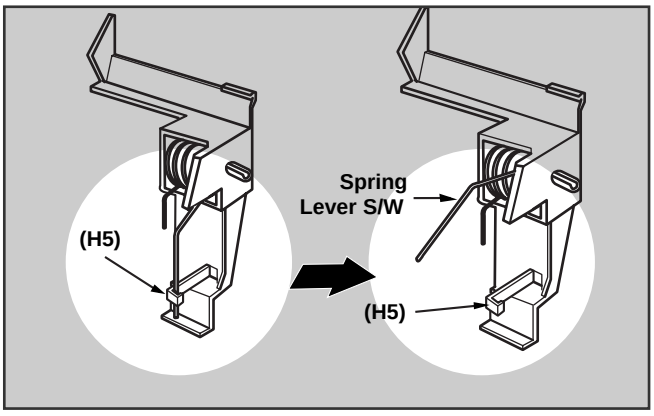


1) Hook the Spring Lever S/W on (H5).
2) Lift up the left side of the Lever S/W from the Groove(A) of the Chassis.



NOTE

(1) Place the Spring Lever S/W of the above (No.1) as original position.



DECK MECHANISM DISASSEMBLY

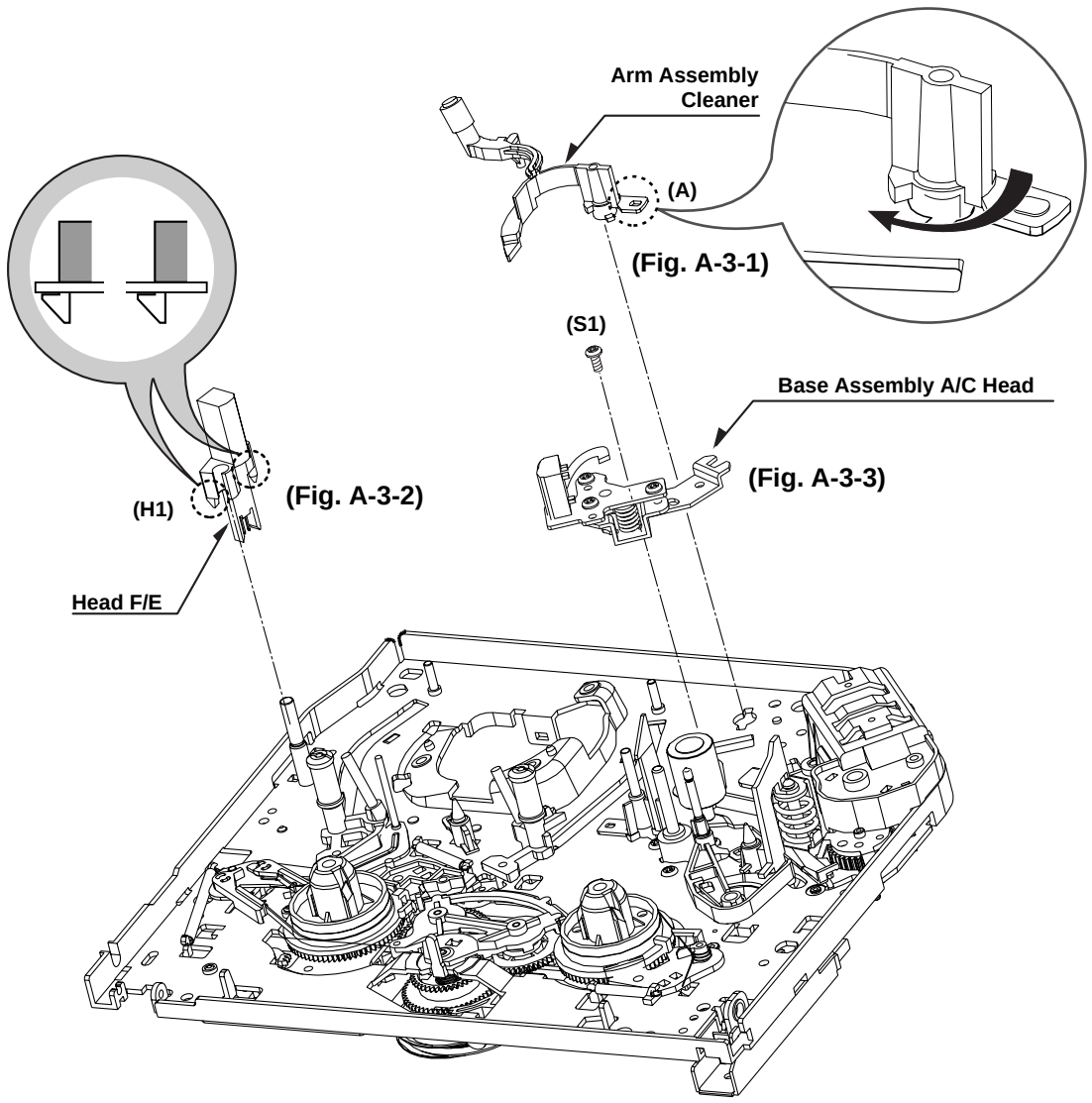


Fig. A-3

8. Arm Assembly Cleaner(Fig. A-3-1)

1) Break away the (A) part shown above Fig. A-3-1 from the Embossing of the Chassis in the clockwise direction and lift up the Arm Assembly Cleaner.

9. Head F/E (Fig. A-3-2)

1) Unhook the two Hooks (H1) on the back side of the Chassis and lift up the Head F/E.

10. Base Assembly A/C Head (Fig. A-3-3)

1) Remove the Screw (S1) and lift up the Base Assembly A/C Head.

DECK MECHANISM DISASSEMBLY

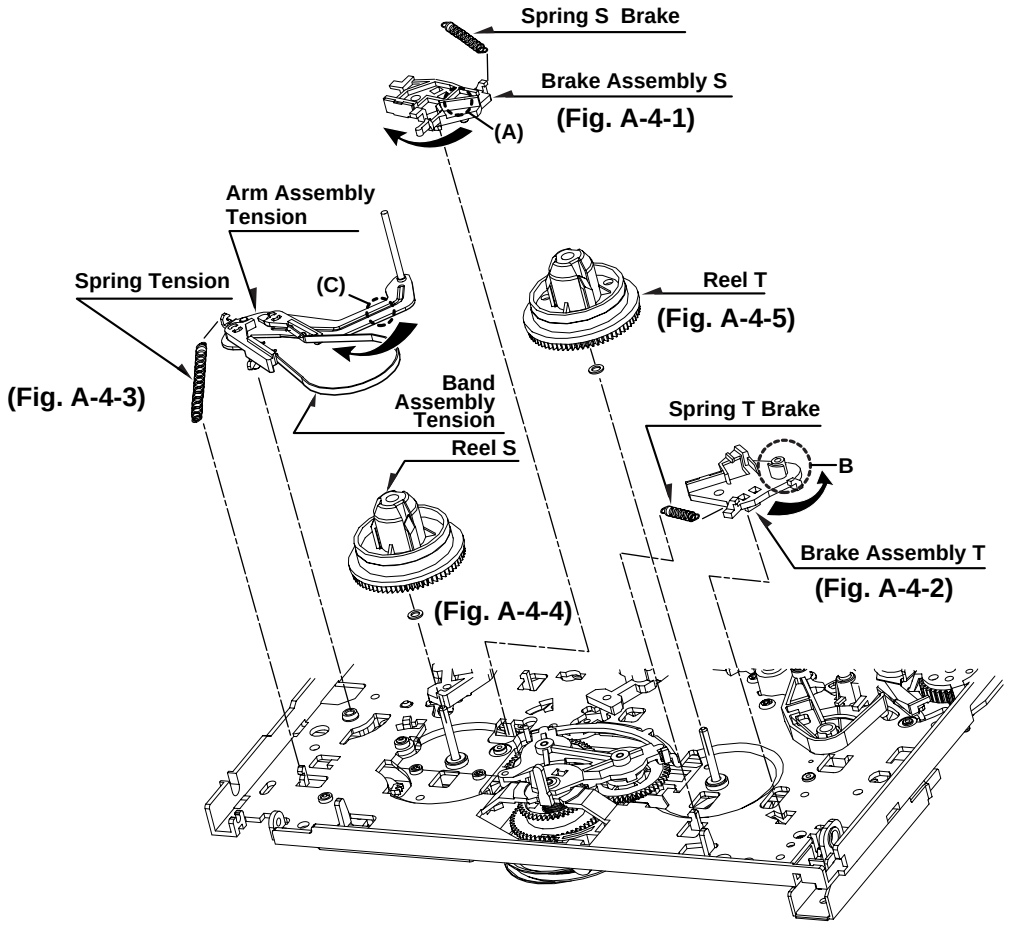


Fig. A-4

11. Brake Assembly S (Fig. A-4-1)

1) Remove the Spring S Brake.
2) Hold the (A) part shown above Fig. A-4-1 and turn to the clockwise direction, and then lift up the Brake Assembly S.

NOTE

(1) When reassembling, be careful not to change the Spring with below No.12.(Refer to Fig. B-2).

12. Brake Assembly T (Fig. A-4-2)

1) Remove the Spring T Brake.
2) Hold the (B) part shown above Fig. A-4-2 and turn to the counterclockwise direction, and then lift up the Brake Assembly T.

NOTE

(1) When reassembling, be careful not to change the Spring with above No.11.(Refer to Fig. B-2).

(Difference for Springs) **(Fig. B-2)**

	Spring T Brake Color (Black)
	Spring S Brake
	Spring Tension

13. Arm Assembly Tension (Fig. A-4-3)

1) Remove the Spring Tension.
2) Hold the (C) part shown above Fig. A-4-3 and turn to the clockwise direction, and then lift up the Arm Assembly Tension.

NOTE

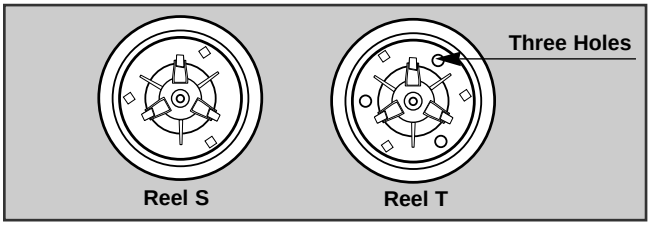
(1) When reassembling, be careful not to change the Spring with above No.11,12.(Refer to Fig. B-2).

14. Reel S (Fig. A-4-4) & Reel T (Fig. A-4-5)

1) Lift up the Reel S and Reel T.

NOTE

(1) When reassembling, be careful not to change the Reel S and Reel T each other.



(2) Confirm two Slide Washers under the Reel S and Reel T.

DECK MECHANISM DISASSEMBLY

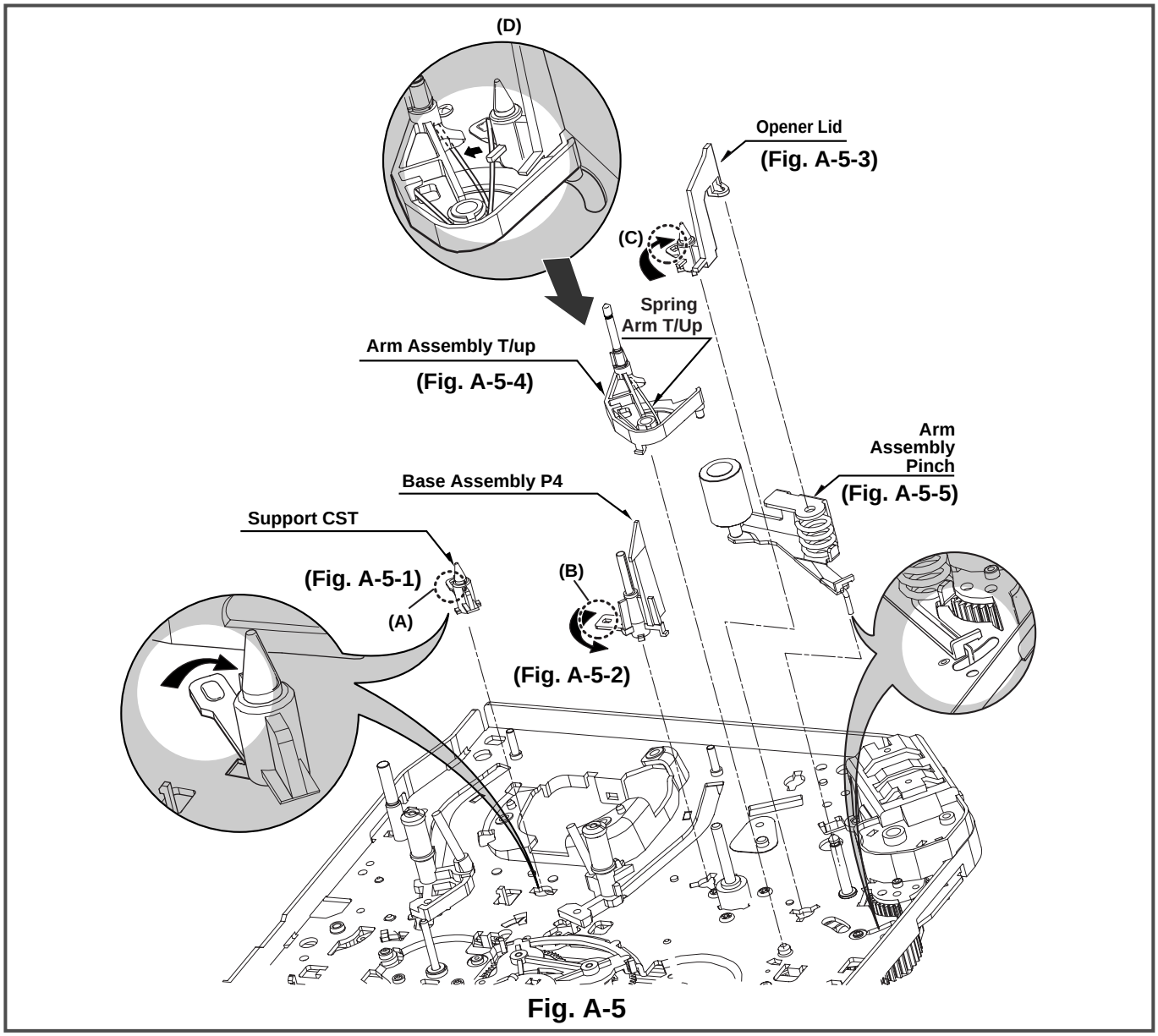


Fig. A-5

15. Support CST (Fig. A-5-1)

1) Break away the (A) part shown above Fig. A-5-1 from the Embossing of the Chassis in the clockwise direction, and lift up the Support CST.

16. Base Assembly P4 (Fig. A-5-2)

1) Break away the (B) part shown above Fig. A-5-2 from the Embossing of the Chassis in the counterclockwise direction and lift up the Base Assembly P4.

17. Opener Lid (Fig. A-5-3)

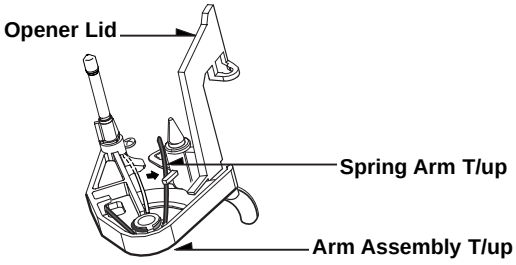
1) Hook the Spring Arm T/up on the Split digged under the Arm Assembly T/up.(Refer to Fig.A-5-4(D)).
2) Break away the (C) Part of the Opener Lid from the Embossing of the Chassis in the Clockwise direction and lift up the Opener Lid.

18. Arm Assembly T/up (Fig. A-5-4)

1) Confirm that the Spring Arm T/up is placed as above (No.17.1).
2) Lift up the Arm Assembly T/up.

NOTE

(1) When reassembling, unhook the Spring Arm T/up Shown above (No.17.1) to the original position.



19. Arm Assembly Pinch (Fig. A-5-5)

1) Lift up the Arm Assembly Pinch.

DECK MECHANISM DISASSEMBLY

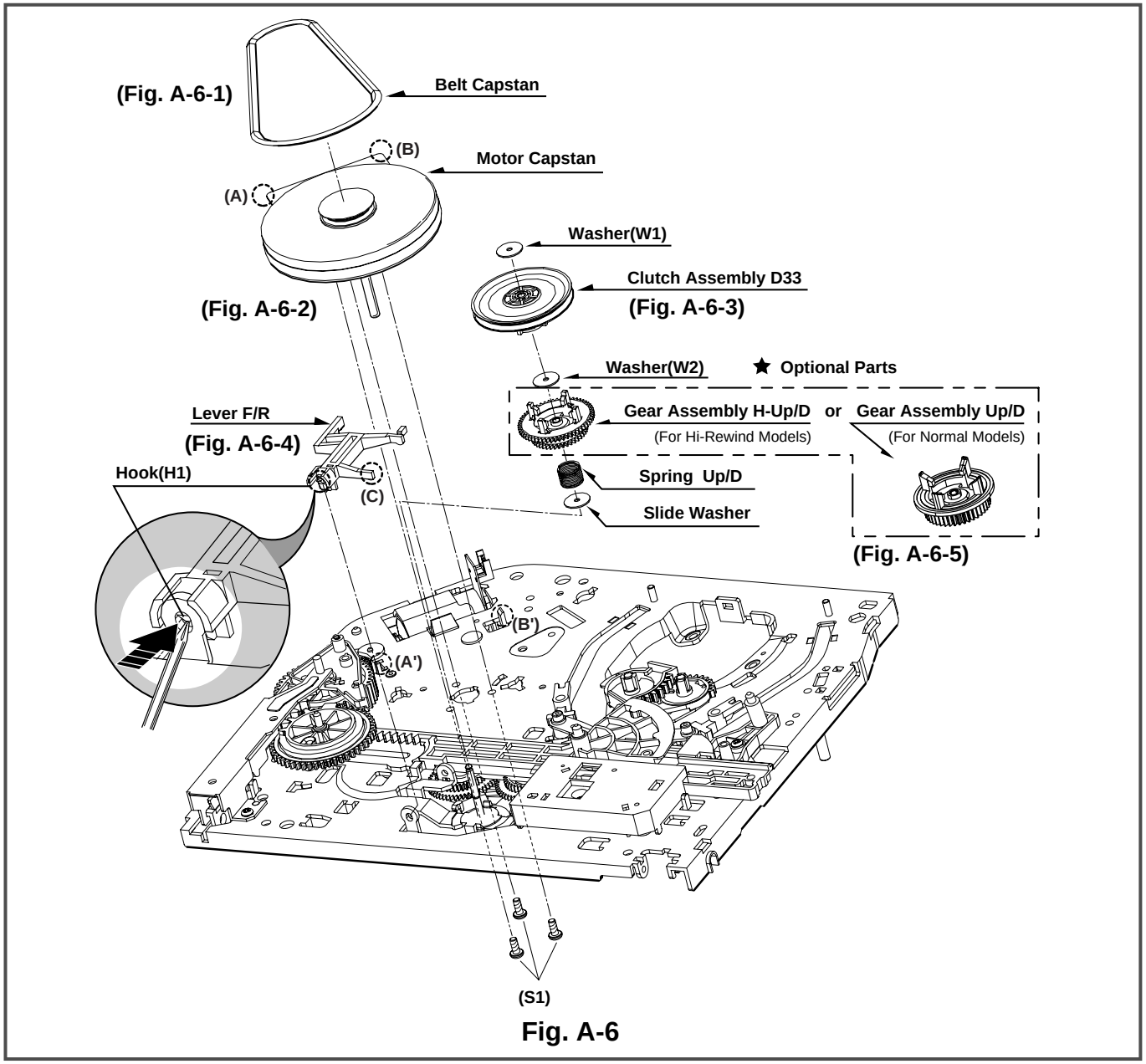


Fig. A-6

20. Belt Capstan (Fig. A-6-1)/ Motor Capstan (Fig. A-6-2)

1) Remove the Belt Capstan.
2) Remove three Screws(S1) on the back side of the Chassis and lift up the Motor Capstan.

NOTE

(1) When reassembling, Confirm the (A), (B) parts of Motor Capstan is located to the (A'), (B') of the Chassis.

21. Clutch Assembly D33 (Fig. A-6-3)

1) Remove the Washer(W1) and lift up the Clutch Assembly D33.

22. Lever F/R (Fig. A-6-4)

1) Unhook the (H1) shown above Fig. A-6-4 and lift up the Lever F/R.

NOTE

(1) When reassembling, move the (C) part of the Lever F/R up and down, then confirm if it is returned to original position.

23. Gear Assembly H-Up/D or Gear Assembly Up/D (Fig. A-6-5)

1) Remove the Washer(W2) and lift up the Gear Assembly H-up/D.
2) Remove the Spring Up/D.
3) Remove the Slide Washer.

NOTE

(1) Gear Assembly H-Up/D is for Hi-Rewind Models.
(2) Gear Assembly Up/D is for Normal Models except Hi-Rewind Models.

DECK MECHANISM DISASSEMBLY

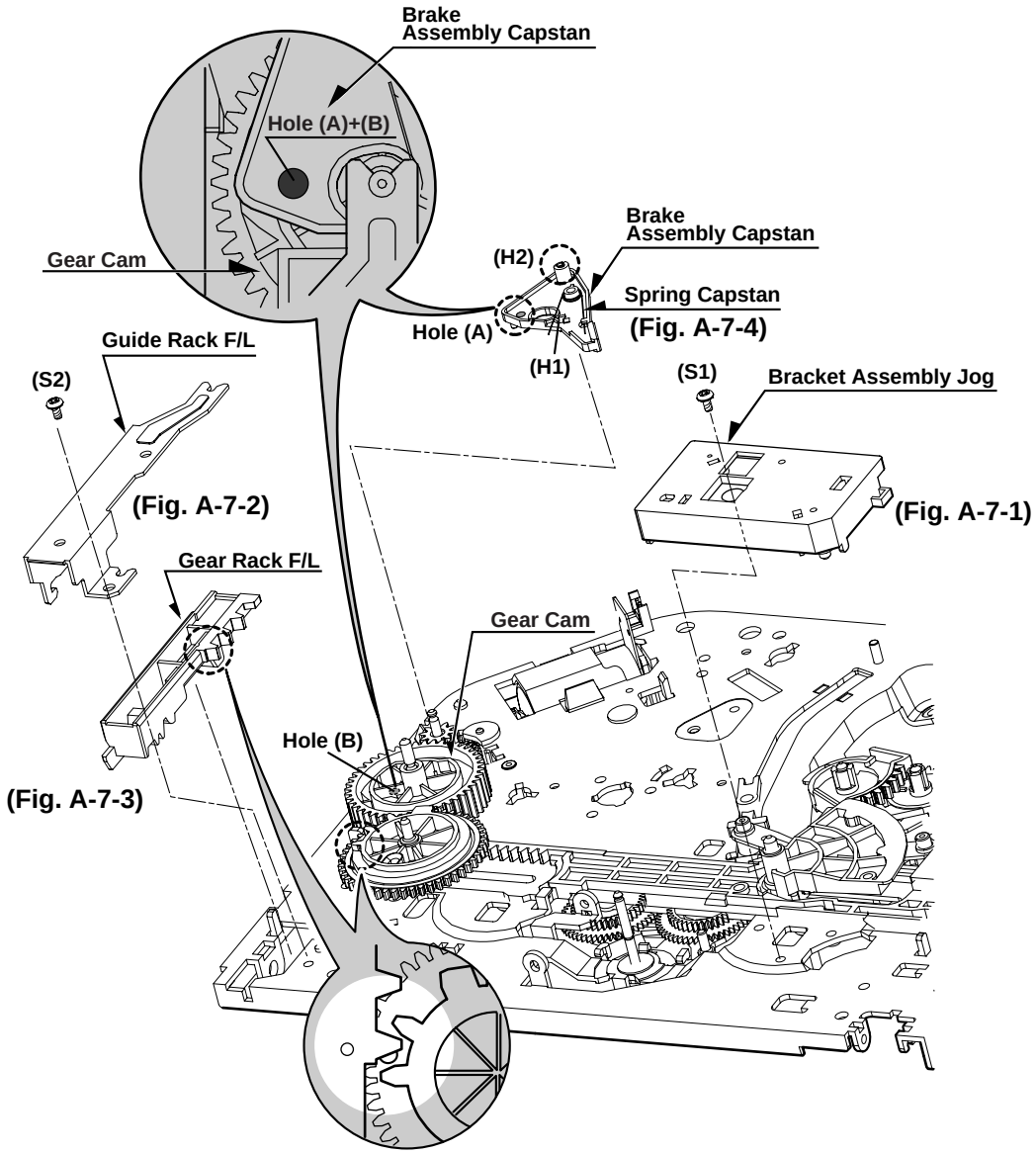


Fig. A-7

24. Bracket Assembly Jog (Fig. A-7-1)

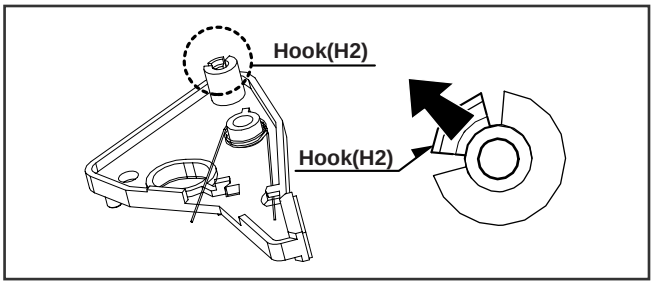
1) Remove the Screw(S1) and lift up the Bracket Assembly Jog.

25. Guide Rack F/L (Fig. A-7-2)/ Gear Rack F/L (Fig. A-7-3)

1) Remove the Screw(S2) and lift up the Guide Rack F/L.
2) Lift up the Gear Rack F/L.

26. Brake Assembly Capstan (Fig. A-7-4)

1) Hook the Spring Capstan on the Hook(H1).
2) Unhook the Hook(H2) and lift up the Brake Assembly Capstan.(Refer to Fig. to the right)



NOTE

(1) When reassembling, confirm that the Hole(A) of the Brake Assembly Capstan is aligned to the Hole(B) of the Gear Cam.
(Refer to above Fig. A-7-4).

DECK MECHANISM DISASSEMBLY

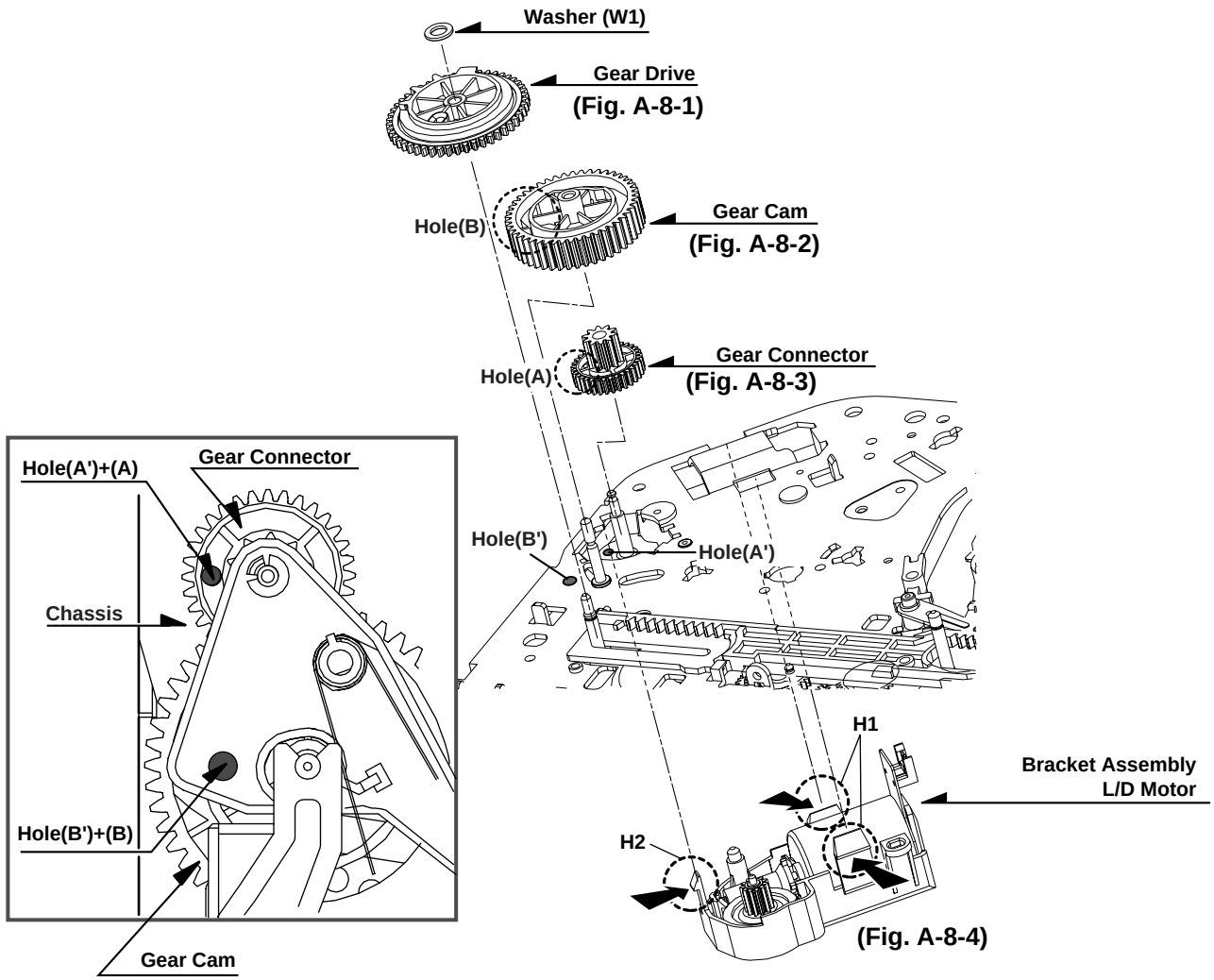


Fig. A-8

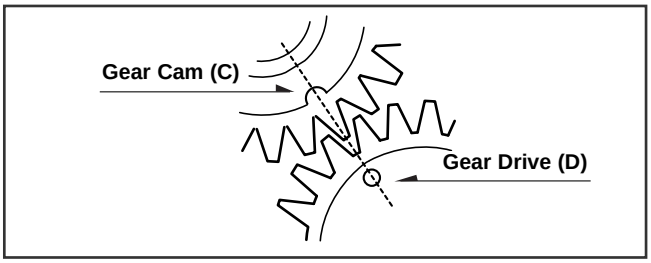
27. Gear Drive (Fig. A-8-1)/ Gear Cam (Fig. A-8-2)/ Gear Connector (Fig. A-8-3)

1) Remove the Washer(W1) and lift up the Gear Drive.
2) Lift up the Gear Cam.
3) Lift up the Gear Connector.

NOTE

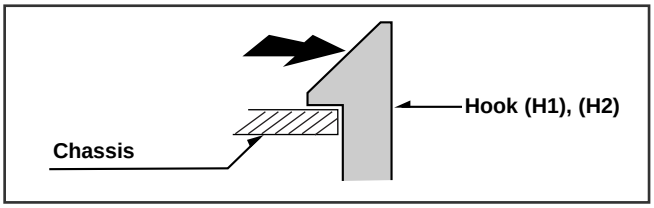
(1) When reassembling, confirm that the Hole (A) of the Gear Connector is aligned to the Hole (A') of the Chassis (Fig. A-8-3).
(2) When reassembling, confirm that the Hole (B) of the Gear Cam is aligned to the Hole (B') of the Chassis (Fig. A-8-2).
(3) When reassembling, confirm that the (C) part of the Gear Cam is aligned to the (D) part of the Gear Drive as shown Fig. B-3

(Fig. B-3)



28. Bracket Assembly L/D Motor (Fig. A-8-4)

1) Unhook the three Hooks(H1),(H2) and push down the Bracket Assembly L/D Motor.



DECK MECHANISM DISASSEMBLY

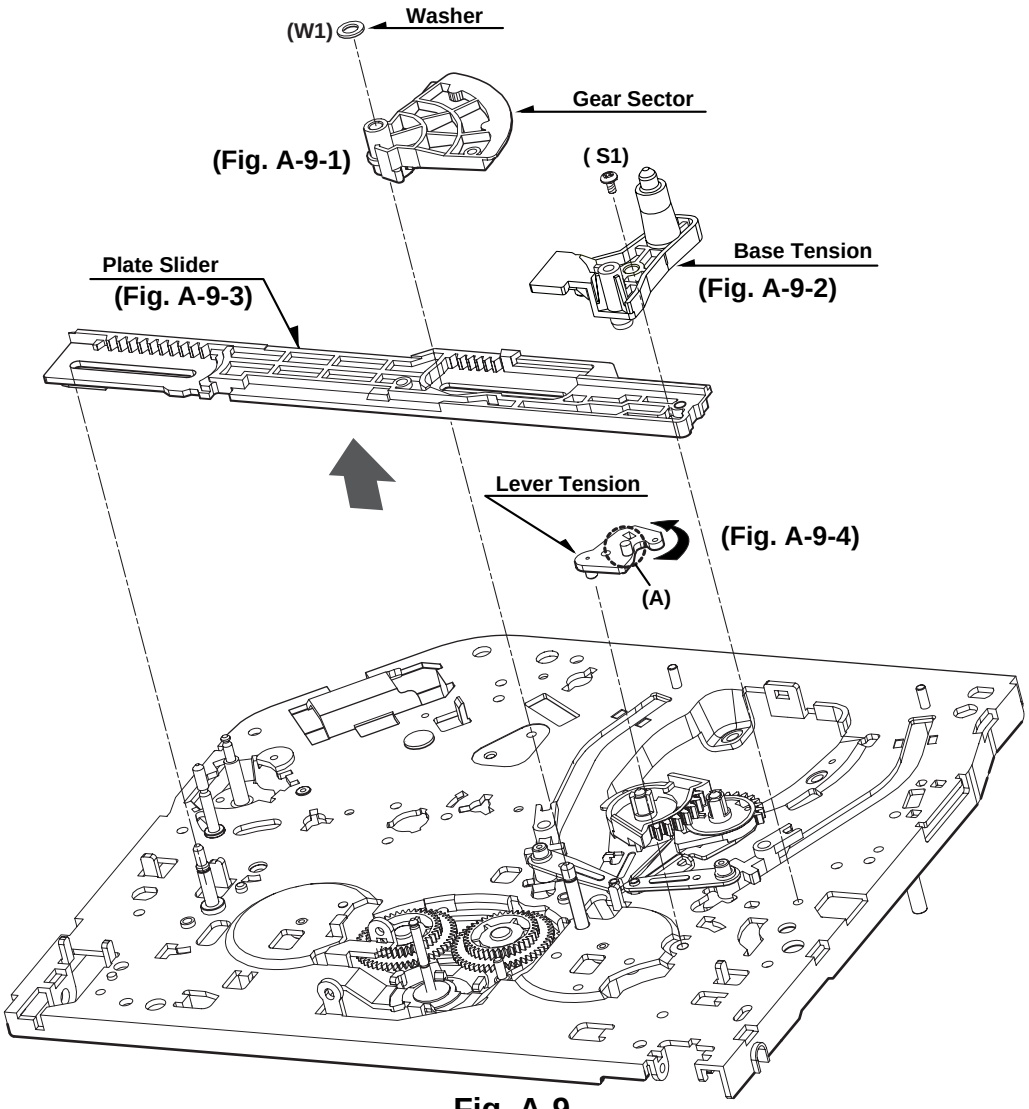


Fig. A-9

29. Gear Sector (Fig. A-9-1)

1) Remove the Washer(W1) and lift up the Gear Sector.

30. Base Tension (Fig. A-9-2)/ Plate Slider (Fig. A-9-3)/ Lever Tension (Fig. A-9-4)

1) Remove the Screw(S1) and lift up the Base Tension.
2) Lift up the Plate Slider.
3) Hold the (A) Part of the Lever Tension and turn to the counterclockwise direction, and then lift up the Lever Tension.

NOTE

(1) When reassembling, turn the Lever Tension to the clockwise direction in maximum.

DECK MECHANISM DISASSEMBLY

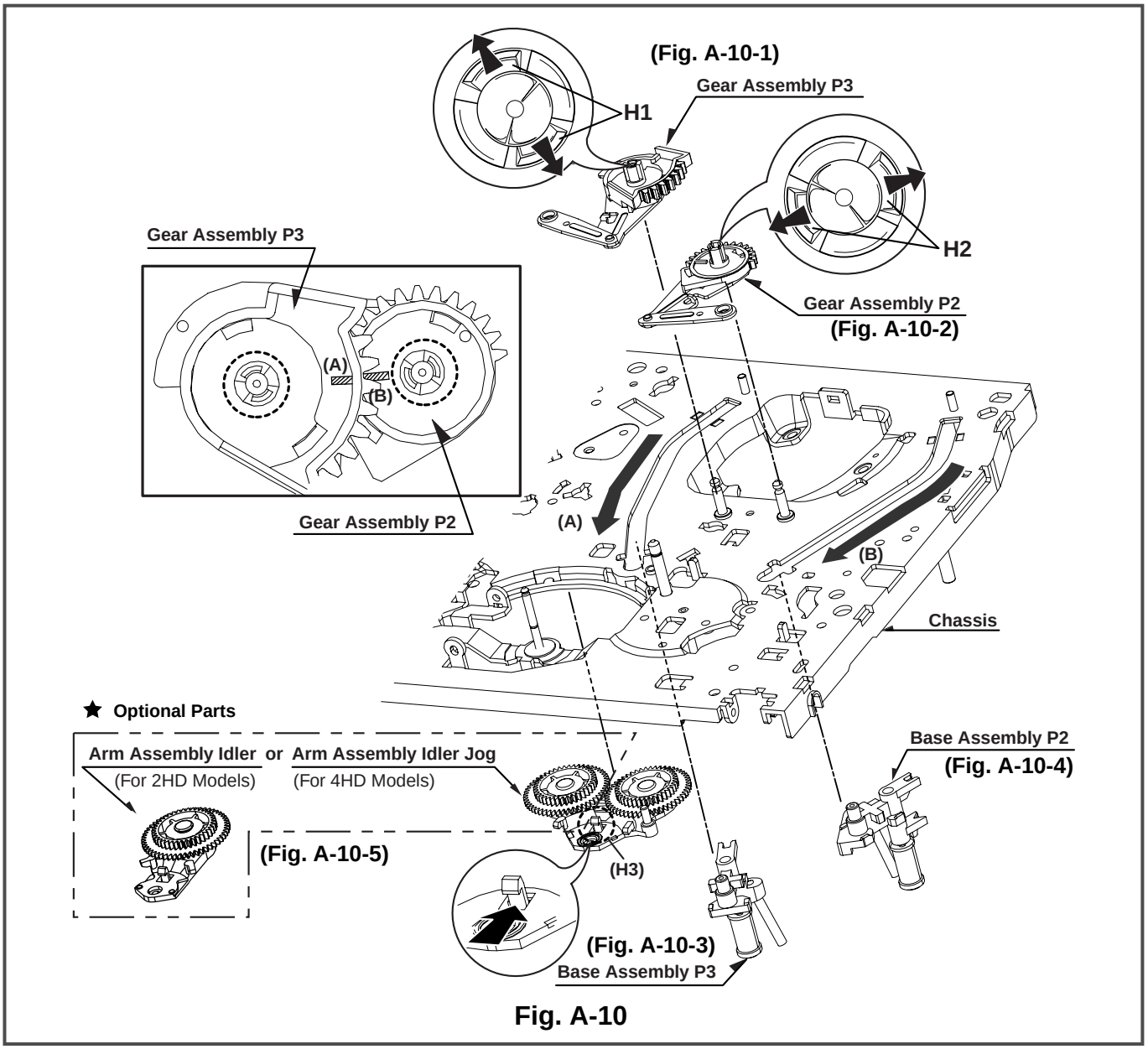


Fig. A-10

31. Gear Assembly P3 (Fig. A-10-1)/ Gear Assembly P2 (Fig. A-10-2)

1) Unhook the two Hooks(H1) and lift up the Gear Assembly P3.
2) Unhook the two Hooks(H2) and lift up the Gear Assembly P2.

32. Base Assembly P3 (Fig. A-10-3)/ Base Assembly P2 (Fig. A-10-4)

1) Move the Base Assembly P3 in the direction of the arrow of the Chassis Hole(A) and push down the Base Assembly P3.
2) Move the Base Assembly P2 in the direction of the arrow of the Chassis Hole(B) and push down the Base Assembly P2.

33. Arm Assembly Idler Jog or Arm Assembly Idler (Fig. A-10-5)

1) Unhook the Hook(H3) and push down the Arm Assembly Idler Jog.

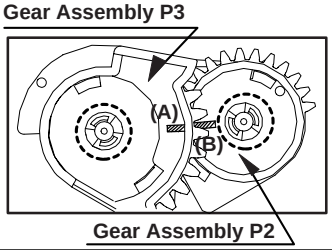
NOTE

1) Arm Assembly Idler Jog is for 4HD Models.
2) Arm Assembly Idler is for 2HD Models.

NOTE

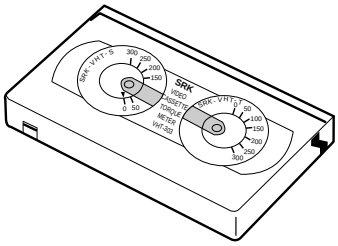
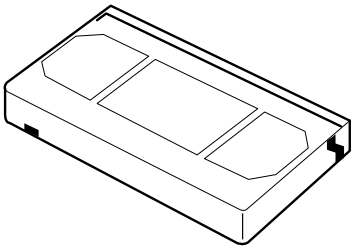
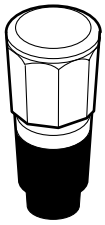
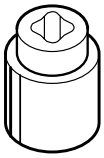
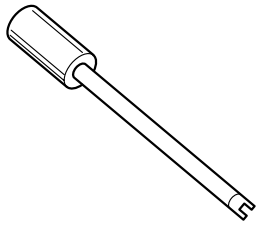
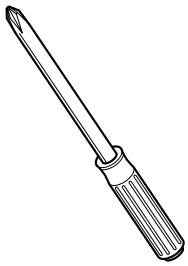
1) When reassembling, confirm that the (A) Part of the Gear Assembly P3 is aligned to the (B) Part of the Gear Assembly P2 as shown below.

(Unloading Condition)



DECK MECHANISM ADJUSTMENT

• Tools and Fixtures for Service

1. Cassette Torque meter **SRK-VHT-303(Not SVC part)** 	**2. Alignment tape** **(See figure below)** 	**3. Torque gauge** **600g.Cm ATG** 
4. Torque gauge adaptor 	**5. Post height adjusting driver** **Parts No:** **SV-TGO-030-000 (SMALL)** **SV-TGO-020-000 (LARGE)** 	**6. + Type driver (ø 5)** 

ALIGNMENT TAPES FOR ADJUSTMENT

Derivation No.		A	B	C	D
Mechanism		PAL	PAL	NTSC	NTSC
Adjustment Items		SP/LP 2/4 Head	SP 2 Head	SP/LP/EP 2/4 Head	SP 2 Head
FM Envelope		TTV-P2L	TTV-P2	TTV-N1 (TTN-N12)	TTV-N2
A/C Head	Slantness	A commercially available tape			
	Height	TTV-P1 (TTV-P1L)	TTV-P1	TTV-N1 (TTV-N12) (TTV-N1E)	TTV-N1 (TTV-N12)
	Azimuth	TTV-P2	TTV-P2	TTV-N2	TTV-N2
X-value		TTV-P2 (TTV-P2L)	TTV-P2	TTV-N2 TTV-N2E TTV-N12	TTV-N2
RG Post Inclination		A commercially available tape			
Tape Back Tension		SRK-VHT-303			

The numbers in ( ) parenthesis can be used as the substiture.

DECK MECHANISM ADJUSTMENT

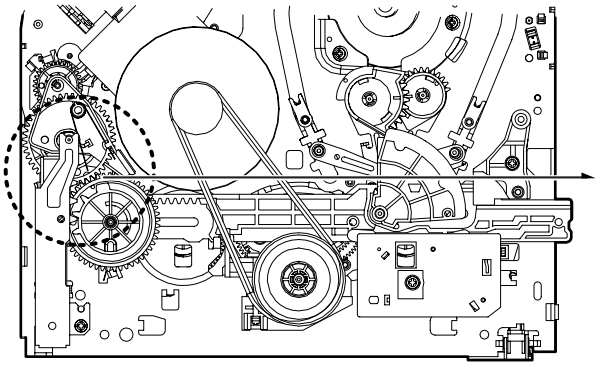
1.Mechanism Alignment Position Check

Purpose:To determine if the Mechanism is in the correct position, when a Tape is ejected.

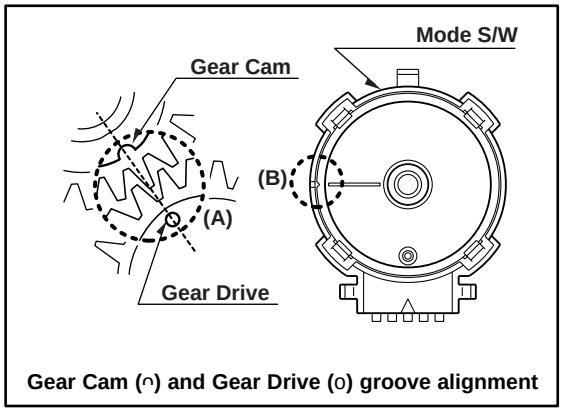
Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Check Point
• Blank tape	• Eject Mode (with Cassette ejected)	• Mechanism and Mode Switch Position

1) Turn the Power S/W on and eject the Cassette by pressing the Eject Button.
2) Remove the Top Cover and Plate Assembly Top, visually check if the Gear Cam Hole is aligned with the Chassis Hole as below Fig. C-2.
3) IF not, rotate the Shaft of the Loading Motor to either Clockwise or Counterclockwise until the Alignment is as below Fig. C-2.
4) Remove the Screw which fixes the Deck Mechanism and Main Frame and confirm if the Gear Cam is aligned with the Gear Drive as below Fig. C-1(A).
5) Confirm if the Mode S/W on the Main P.C.Board is aligned as below Fig. C-1(B).
6) Remount the Deck Mechanism on the Main P.C.Board and check each operation.

CHECK DIAGRAM

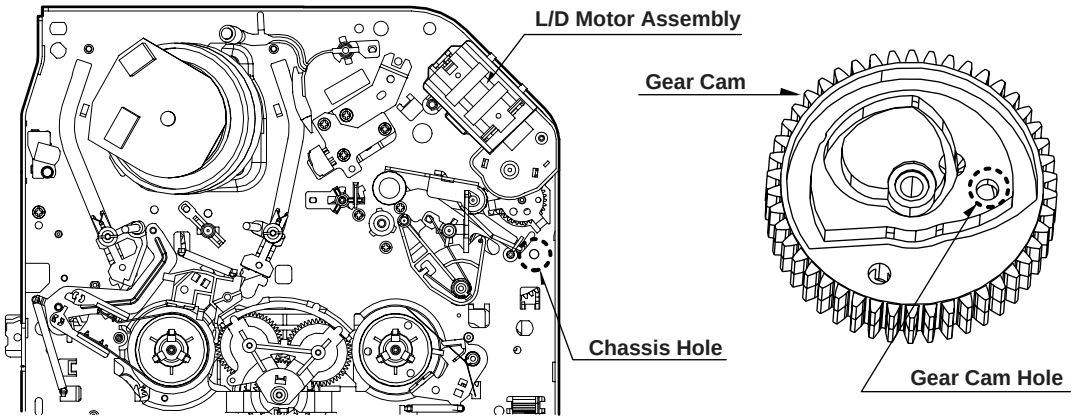


BOTTOM VIEW



Gear Cam (∩) and Gear Drive (o) groove alignment

Fig. C-1



TOP VIEW

Fig. C-2

DECK MECHANISM ADJUSTMENT

2. Preparation for Adjustment (To set the Deck Mechanism to the Loading state without inserting a Cassette Tape).

1) Unplug the Power Cord from the AC Outlet.
2) Disassemble the Top Cover and Plate Assembly Top.
3) Plug the Power Cord into the AC Outlet.
4) Turn the Power S/W on and push the Lever Stopper (L),(R) of the Holder Assembly CST to the back for Loading the Cassette without Tape.
   Cover the Holes of the End Sensors at the both sides of the Bracket Side(L) and Bracket Assembly Door to prevent a light leak.
   Then The Deck Mechanism drives to the Stop Mode.
   In this case, The Deck Mechanism can accept inputs of each mode, however the Rewind and Review Operation can not be performed for more than a few seconds because the Take-up Reel Table is in the Stop State and can not be detected the Reel Pulses.

3. Checking Torque

Purpose: To insure smooth Transport of the Tape during each Mode of Operation.
If the Tape Transport is abnormal, then check the Torque as indicated by the chart below.

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Checking Method
• Torque Gauge(600g/cm ATG) • Torque Gauge Adaptor • Cassette Torque Meter SRK-VHT-303	• Play (FF) or Review (REW) Mode	• Perform each Deck Mechanism Mode without inserting a Cassette Tape(Refer to above No.2 Preparation for Adjustment). • Read the Measurement of the Take-up or Supply Reels on the Cassette Torque Meter(Fig. C-3-2). • Attach the Torque Gauge Adaptor to the Torque Gauge and then read the Value of it(Fig. C-3-1).

Item	Mode	Test Equipment	Measurement Reel	Measurement Values
Fast Forward Torque	Fast Forward	Cassette Torque Gauge	Take-Up Reel	More than 400g/cm
Rewind Torque	Rewind	Cassette Torque Gauge	Supply Reel	More than 400g/cm
Play Take-Up Torque	Play	Cassette Torque Meter	Take-Up Reel	75~115g/cm
Review Torque	Review	Cassette Torque Meter	Supply Reel	130~200g/m

NOTE:

The Values are measured by using a Torque Gauge and Torque Gauge Adaptor with the Torque Gauge affixed.

• Cassette Torque Meter (SRK-VHT-303)

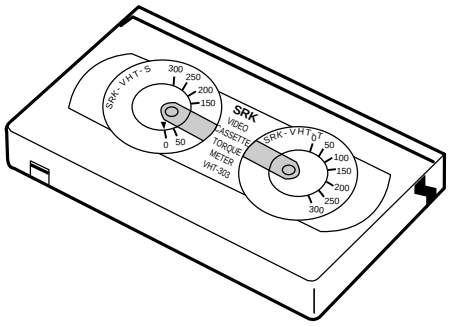


Fig. C-3-2

NOTE:

The Torque reading to measure occurs when the Tape abruptly changes direction from Fast Forward of Rewind Mode, when quick bracking is applied to both Reels.

• Torque Gauge (600g.cm ATG)

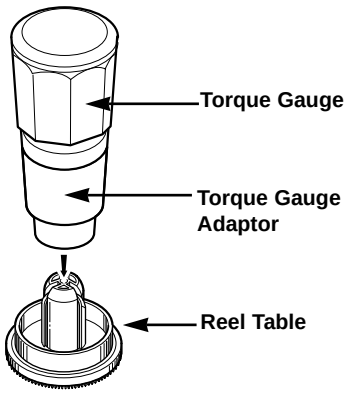


Fig. C-3-1

DECK MECHANISM ADJUSTMENT

4.Guide Roller Height Adjustment

Purpose: To regulate the Height of the Tape so that the Bottom of the Tape runs along the Tape Guide Line on the Lower Drum.

4-1. Preliminary Adjustment

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Post Height Adjusting Driver	• Play or Review Mode	• Guide Roller Height Adjustment screws on the Supply and Take-Up Guide Rollers.

Adjustment Procedure

1) Confirm if the Tape runs along the Tape Guide Line of the Lower Drum.
2) If the Tape runs the Bottom of the Guide Line, turn the Guide Roller Height Adjustment Screw to Clockwise direction.
3) If it runs the Top, turn to Counterclockwise direction.
4) Adjust the Height of the Guide Roller to be guided to the Guide Line of the Lower Drum from the Starting and Ending Point of the Drum.

ADJUSTMENT DIAGRAM

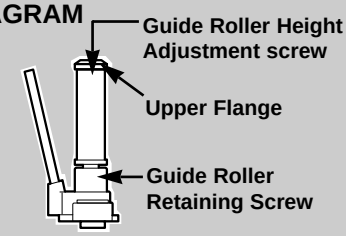


Fig. C-4-1

4-2. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Points	Test Conditions VCR(VCP) State	Adjustment Point
• Oscilloscope • Alignment Tape • Post Height Adjusting Driver	• CH-1:PB RF Envelope • CH-2:NTSC: SW 30Hz PAL: SW 25Hz • Head Switching Output Point • RF Envelope Output Point	• Play an Alignment Tape	• Guide Roller Height Adjustment Screws

Adjustment Procedure

1) Play an Alignment Tape after connecting the Probe of the Oscilloscope to the RF Envelope Output Test Point and Head Switching Output Test Point.
2) Tracking Control(in PB Mode) : Center Position(When this Adjustment is performed after the Drum Assembly has been replaced, set the Tracking Control so that the RF Output is Maximum).
3) Height Adjustment Screw : Flatten the RF Waveform. (Fig. C-4-2)
4) Turn(Move) the Tracking Control(in PB Mode) Clockwise and Counterclockwise.(Fig. C-4-3)
5) Check that any Drop of RF Output is uniform at the Start and End of the Waveform.

NOTE

If the adjustment is excessive or insufficient the tape will jam or fold.

Waveform Diagrams

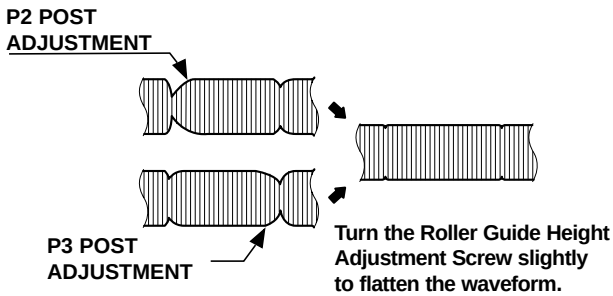


Fig. C-4-2

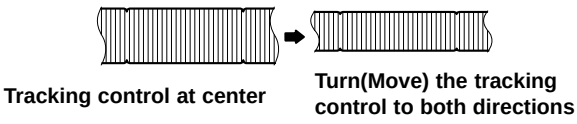
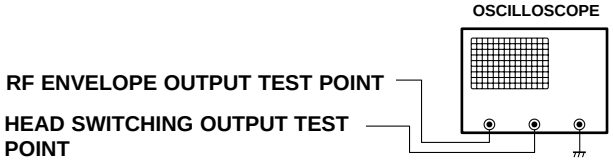


Fig. C-4-3

Connection Diagram



DECK MECHANISM ADJUSTMENT

5. Audio/Control (A/C) Head Adjustment

Purpose: To insure that the Tape passes accurately over the Audio and Control Tracks in exact Alignment in both the Record and Playback Modes.

5-1. Preliminary Adjustment (Height and Tilt Adjustment)

Perform the Preliminary Adjustment, when there is no Audio Output Signal with the Alignment Tape.

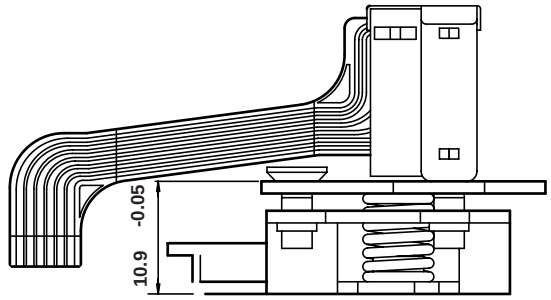
Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Blank Tape • Screw Driver(+) Type 5mm	• Play the blank tape	• Tilt Adjustment Screw(C) • Height Adjustment Screw(B) • Azimuth Adjustment Screw(A)

Adjustment Procedure/Diagrams

1) Initially adjust the Base Assembly A/C Head as shown Fig. C-5-1 by using the Height Adjustment Screw(B).
2) Play a Blank Tape and observe if the Tape passes accurately over the A/C Head without Tape Curling or Folding.
3) If Folding or Curling is occured then adjust the Tilt Adjustment Screw(C) while the Tape is running to resemble Fig. C-5-3.
4) Reconfirm the Tape Path after Playback about 4~5 seconds.

NOTE

Ideal A/C head height occurs, when the tape runs between 0.2~0.25mm above the bottom edge of the A/C head core.



A/C Head Base

Fig. C-5-1

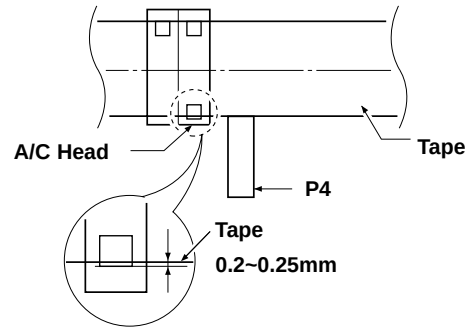
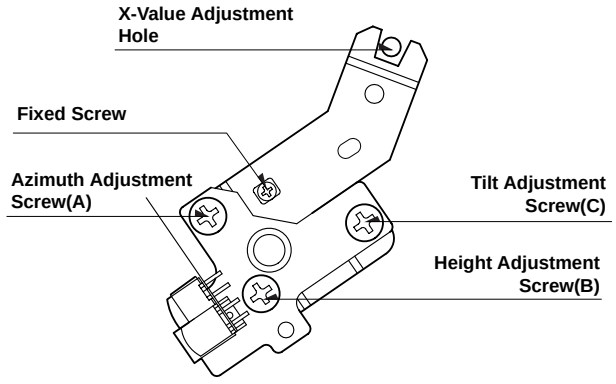


Fig. C-5-3



A/C Head Assembly

Fig. C-5-2

DECK MECHANISM ADJUSTMENT

5-2. Confirm that the Tape passes smoothly between the Take-up Guide and Pinch Roller(using a Mirror or the naked eye).

1) Afetr completing Step 5-1.(Preliminary Adjustment), check that the Tape passes around the Take-up Guide and Pinch Roller without Folding or Curling at the Top or Bottom.
   (1) If Folding or Curling is observed at the Bottom of the Take-up Guide then slowly turn the Tilt Adjustment Screw(C) in the Clockwise directioin.
   (2) If Folding or Curling is observed at the Top of it then slowly turn the Tilt Adjustment Screw(C) in the Counterclockwise direction.

NOTE:

Check the RF Envelope after adjusting the A/C Head, if the RF Waveform differs from Fig. C-5-4, performs Precise Adjustment to flat the RF Waveform.

5-3. Precise Adjustment (Azimuth adjustment)

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment Tape(SP) • Screw Driver(+) Type 5mm	• Audio output jack	• Play an Alignment Tape 1KHz, 7KHz Sections	• Azimuth Adjustment Screw(A) • Height Adjustment Screw(B)

Adjustment Procedure

1) Connect the Probe of the Oscilloscope to Audio Output Jack.
2) Alternately adjust the Azimuth Adjustment Screw(A) and the Tilt Adjustment Screw(C) for Maximum Output of the 1Khz and 7Khz segments, while maintaining the flattest Envelope differential between the two Frequencies.

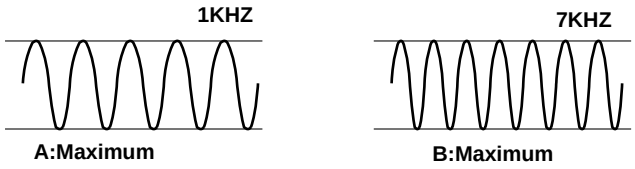
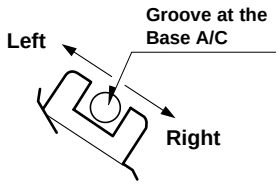


Fig. C-5-4

6. X-Value Adjustment

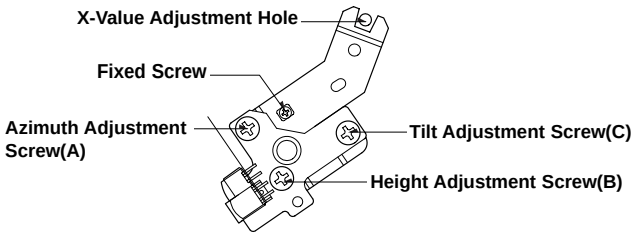
Purpose: To obtain compatibility with other VCR(VCP) Models.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment tape(SP only) • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Swithching Output Test Point • RF Envelope Output Test Point	• Play an Alignment Tape	

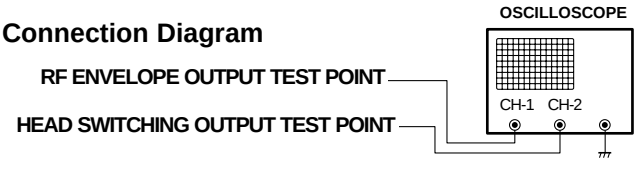
Adjustment Procedure

1) Insert the alignment tape, and press the + or - manual tracking (channel) button once while "AUTO TRACKING" is flashing on the screen to release auto tracking, and then center the tracking.
2) Run the tape long enough for tracking to complete one cycle.
3) Loosen the fixing screw, and move the A/C head base assembly in the direction shown in the diagram, to find the center of the peak so that the maximum envelope is available.
   With this method, the 31-µm head can trace on the centerof 58-µm track.
4) Tighten the A/C head base assembly fixing screw.

Adjustment Diagram



Connection Diagram



DECK MECHANISM ADJUSTMENT

7. Adjustment after Replacing Drum Assembly (Video Heads)

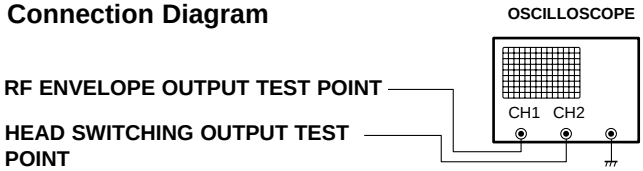
Purpose: To correct for shift in the Roller Guide and X value after replacing the Drum.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Points
• Oscilloscope • Alignment tapes • Blank Tape • Post Height Adjusting Driver • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Swithching Output Test Point • RF Envelope Output Test Point	• Play the blank tape • Play an alignment tape	• Guide Roller Precise Adjustment • Switching Point • Tracking Preset • X-Value

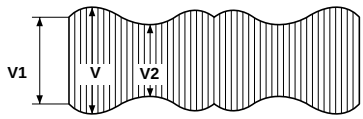
Checking/Adjustment Procedure

Play a blank tape and check for tape curling or creasing around the roller guide. If there is a problem then follow the procedure 4. "Guide Roller Height" and 5. "Audio Control(A/C) Head Adjustment".

Connection Diagram



Waveform



V1/V MAX ≦ 0.7
V2/V MAX ≦ 0.8
RF ENVELOPE OUTPUT

Fig. C-7

8. Check the Tape Travel after Reassembling Deck Assembly.

8-1.Check Audio and RF Locking Time during playback and after CUE or REV (FF/REW)

Test Equipment/ Fixture	Specification	Connection Points	Test Conditions (Mecanism Condition)
• Oscilloscope • Alignment tapes(with 6H 3kHz Color Bar Signal) • Stop Watch	• RF Locking Time: Less than 5 sec. • Audio Locking Time:Less than 10sec	• CH-1: PB RF Envelope • CH-2: Audio Output • RF Envelope Output Point • Audio Ouptut Jack	• Play an alignment tape (with 6H 3kHz Color Bar Signal)

Checking Procedure

Play an alignment tape then change the operating mode to CUE or REV and confirm if the unit meets the above listed specifications.

NOTES:

1) CUE is fast forward mode (FF)
2) REV is the rewind mode (REW)
3) Referenced to the Play mode

8-2.Check for tape curling or jamming

Test Equipment/ Fixture	Specification	Test Conditions (Mecanism Condition)
• T-160 Tape • T-120 Tape	• Be sure there is no tape jamming or curling at the begining, middle or end of the tape.	• Run the CUE, REV play mode at the beginning and the end of the tape.

Checking Procedure

1) Confirm that the tape runs smoothly around the roller guides, drum and A/C head assemblies while abruptly changing operating modes from Play to CUE or REV. This is to be checked at the begining, middle and end sections of the cassette.
2) Confirm that the tape passes over the A/C head assembly as indicated by proper audio reproduction and proper tape counter performance.

MAINTENANCE/INSPECTION PROCEDURE

1 Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.
Check with the customer to find out how often the unit is used, and then determine that the unit is ready for inspection and maintenance. Check the following parts.

Phenomenon	Inspection	Replacement
Color beats	Dirt on full-erase head	o
Poor S/N, no color	Dirt on video head	o
Vertical or Horizontal jitter	Dirt on video head Dirt on tape transport system	o
Low volume, Sound distorted	Dirt on Audio/control head	o
Tape does not run. Tape is slack	Dirt on pinch roller	o
In Review and Unloading (off mode), the Tape is rolled up loosely.	Clutch Ass'y S27 Torque reduced	o
	Cleaning Drum and transport system	Fig. C-9-3

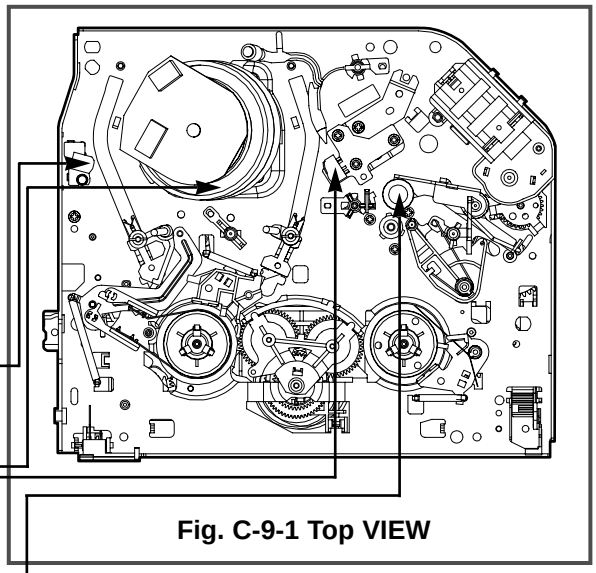


Fig. C-9-1 Top VIEW

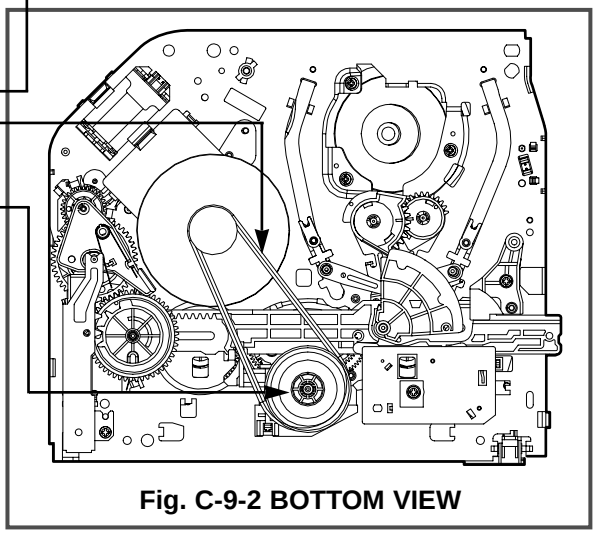


Fig. C-9-2 BOTTOM VIEW

NOTE

If locations marked with **o** do not operate normally after cleaning, check for wear and replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations See the Greasing (Page 25) for the sections to be lubricated and greased.

*** No. (1)~(13) Indicates the Tape Path to be traveled from Supply Reel to Take-up Reel.**

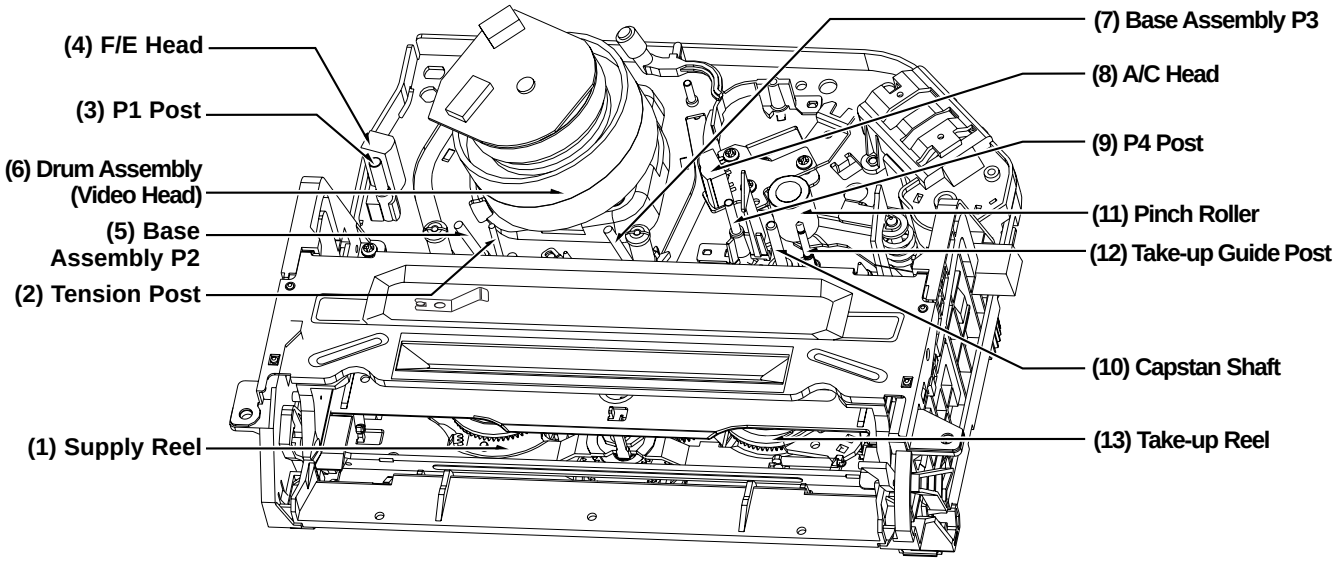


Fig. C-9-3 Tape Transport System

MAINTENANCE/INSPECTION PROCEDURE

2. Required Maintenance

The recording density of a VCR(VCP) is much higher than that of an audio tape recorder. VCR(VCP) components must be very precise, at tolerances of 1/1000mm, to ensure compatiblity with other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure a good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, is necessary.

3. Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR(VCP), and the environment in which the VCR(VCP) is used.
But, in general home use, a good picture will be maintained if inspection and maintenance is made every 1,000 hours. The table below shows the relation between time used and inspection period.

Table 1

When inspection is necessary / Average hours used per day	About 1 year	About 18 months	About 3 years
One hour	■	■	■
Two hours		■	■
Three hours			■

4. Supplies Required for Inspection and Maintence

(1) Grease : Kanto G-311G (Blue) or equivalent
(2) Isopropyl Alcohol or equivalent
(3) Cleaning Patches
(4) Grease : Kanto G-381(Yellow) : Used only for Reel S and Reel T

5) Maintenance Procedure

5-1) Cleaning

(1) Cleaning video head
First use a cleaning tape. If the dirt on the head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with Isopropyl Alcohol. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.
(Do not move the cleaning patch vertically. Make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)
Thoroughly dry the head. Then run the test tape. If Isopropyl Alcohol remains on the video head, the tape may be damaged when it comes into contact with the head surface.
(2) Clean the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with Isporopyl Alcohol.

NOTES:

① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which moves the tape.
② Make sure that during cleaning you do not touch the tape transport system with the tip of a screw driver and no that force is that would cause deforming or damage applied to the system.

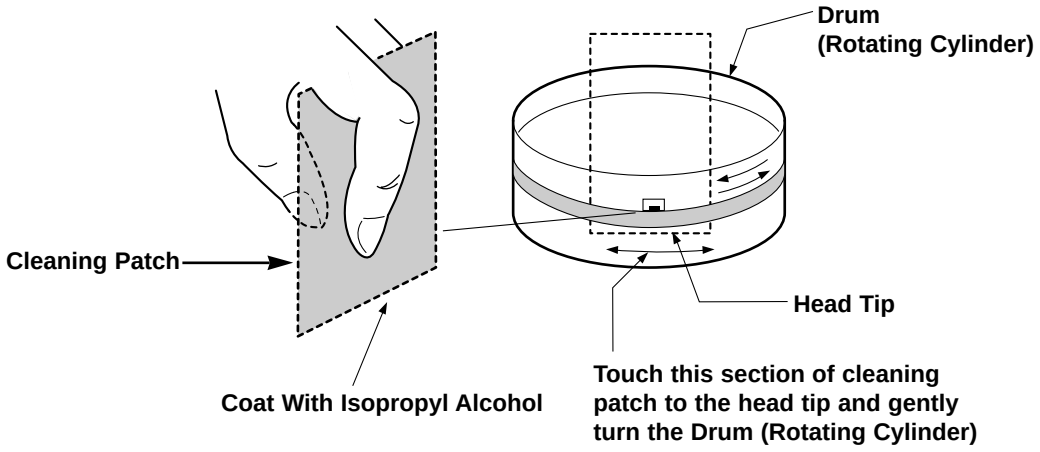

Drum
(Rotating Cylinder)
Cleaning Patch
Head Tip
Coat With Isopropyl Alcohol
Touch this section of cleaning patch to the head tip and gently turn the Drum (Rotating Cylinder)

Fig. C-9-4

MAINTENANCE/INSPECTION PROCEDURE

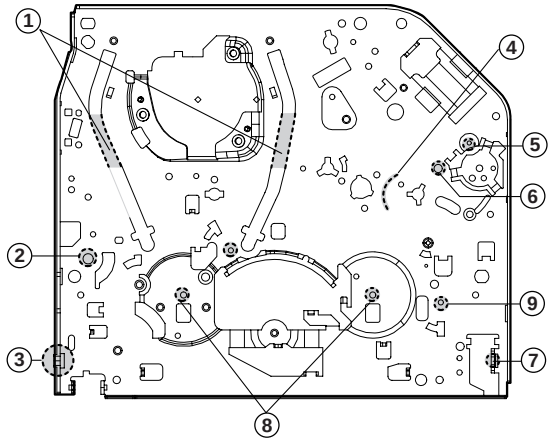
5-2) Greasing

(1) Greasing guidelines

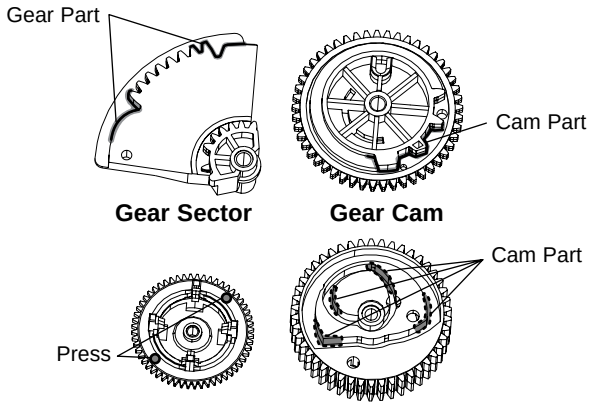
Apply grease, with a cleaning patch. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with clean ing patch wetted in Isopropyl Alcohol.

NOTE:Greasing Points

1) Loading Path Inside & Top side
2) Base Tension Boss inside Hole
3) Arm Assembly F/L "U" Groove
4) Arm Take-up Rubbing Section
5) L/D Motor Worm Wheel Part
6) Shaft
7) Arm Assembly F/L of Buming Inside Hole
8) Reel S, T Shaft (G381:Yellow)
9) Brake T Groove

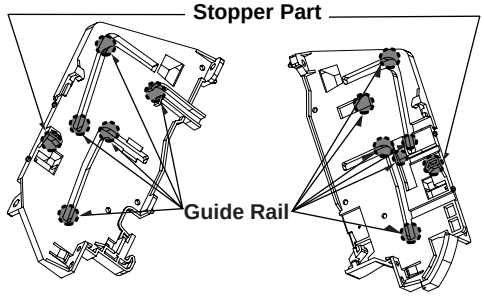


Chassis (Top)



Gear Sector **Gear Cam**

Gear Assembly Up/D **Gear Drive**

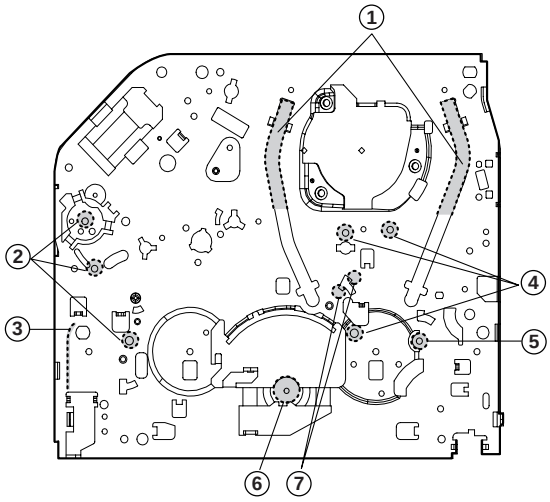


Bracket Side (L) **Bracket Assembly Door**

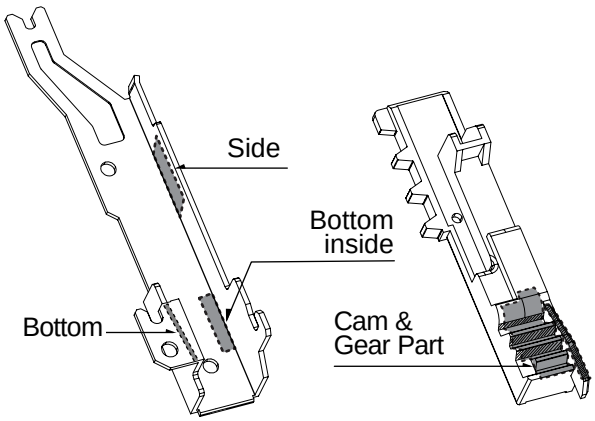
(2) Periodic greasing

Grease specified locations every 5,000 hours.

1) Loading Path Inside & Top side
2) Shaft
3) Gear Rack F/L Moving Section
4) Shaft
5) Lever Tension Groove
6) Clutch Assembly D33 Shaft
7) Brake "S" Rubbing Section



Chassis (Bottom)



Guide Rack F/L **Gear Rack F/L**

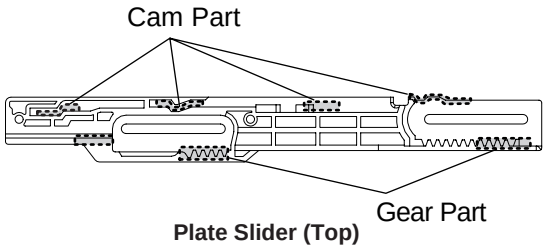


Plate Slider (Top)

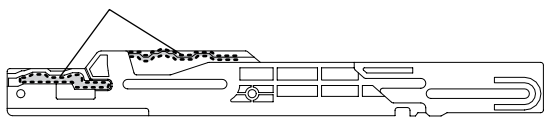
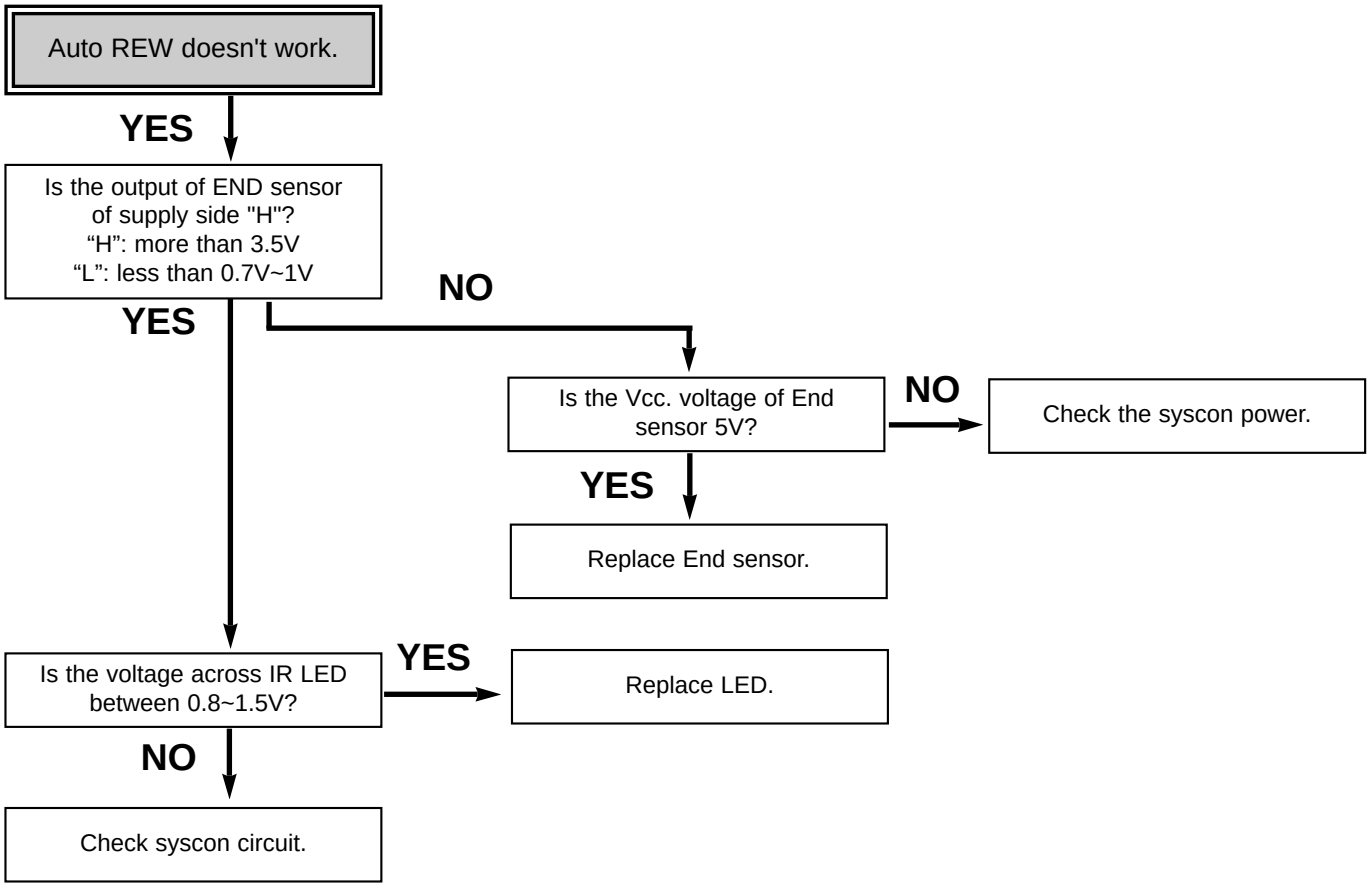


Plate Slider (Bottom)

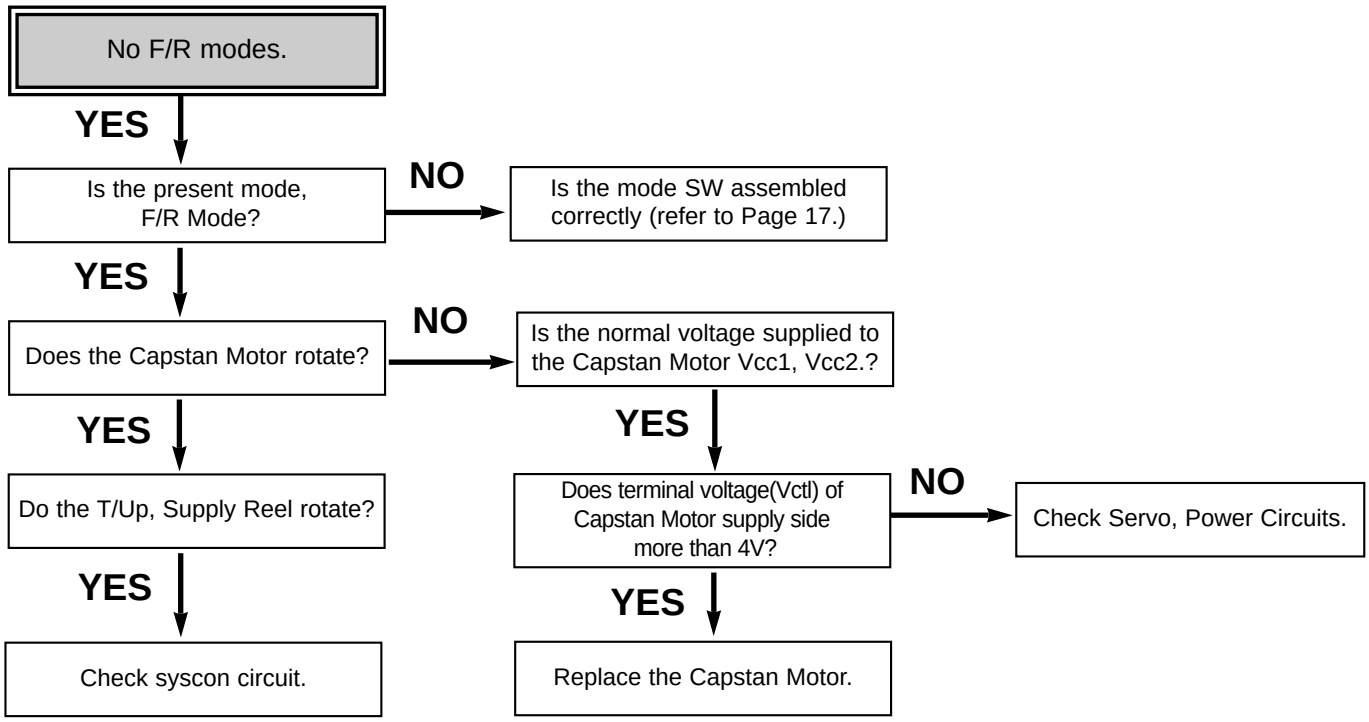
MECHANISM TROUBLESHOOTING GUIDE

1.Deck Mechanism

A.

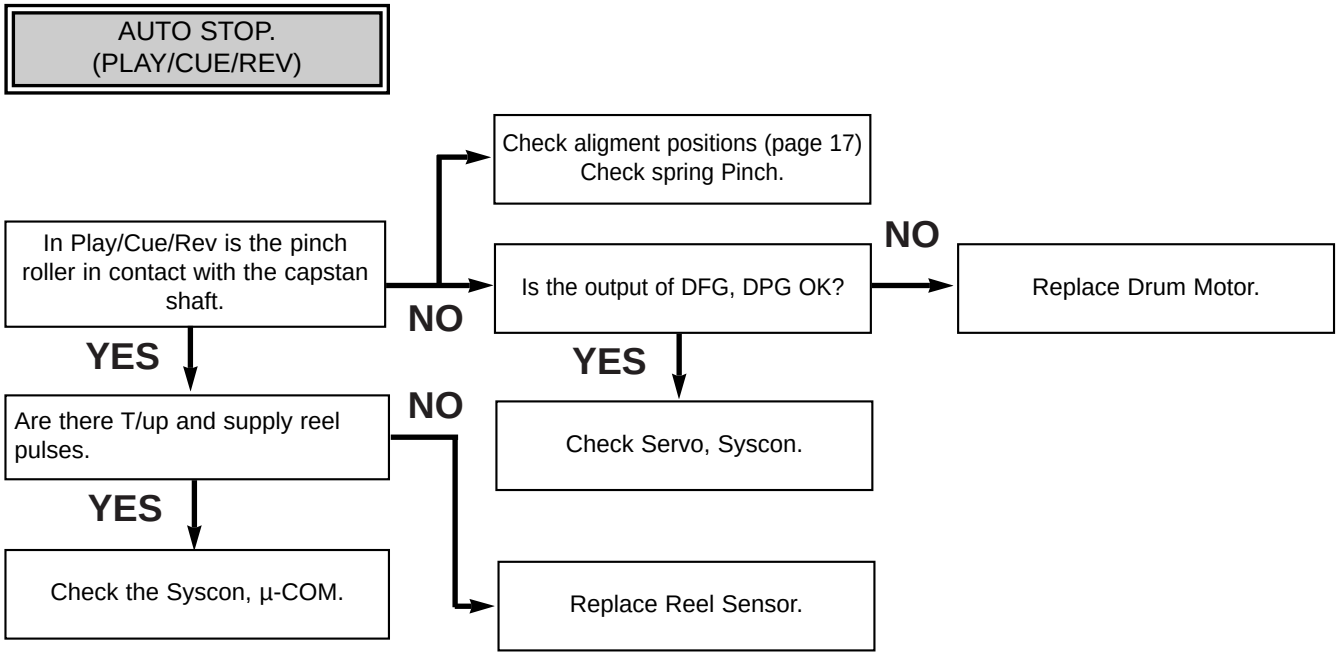


B.

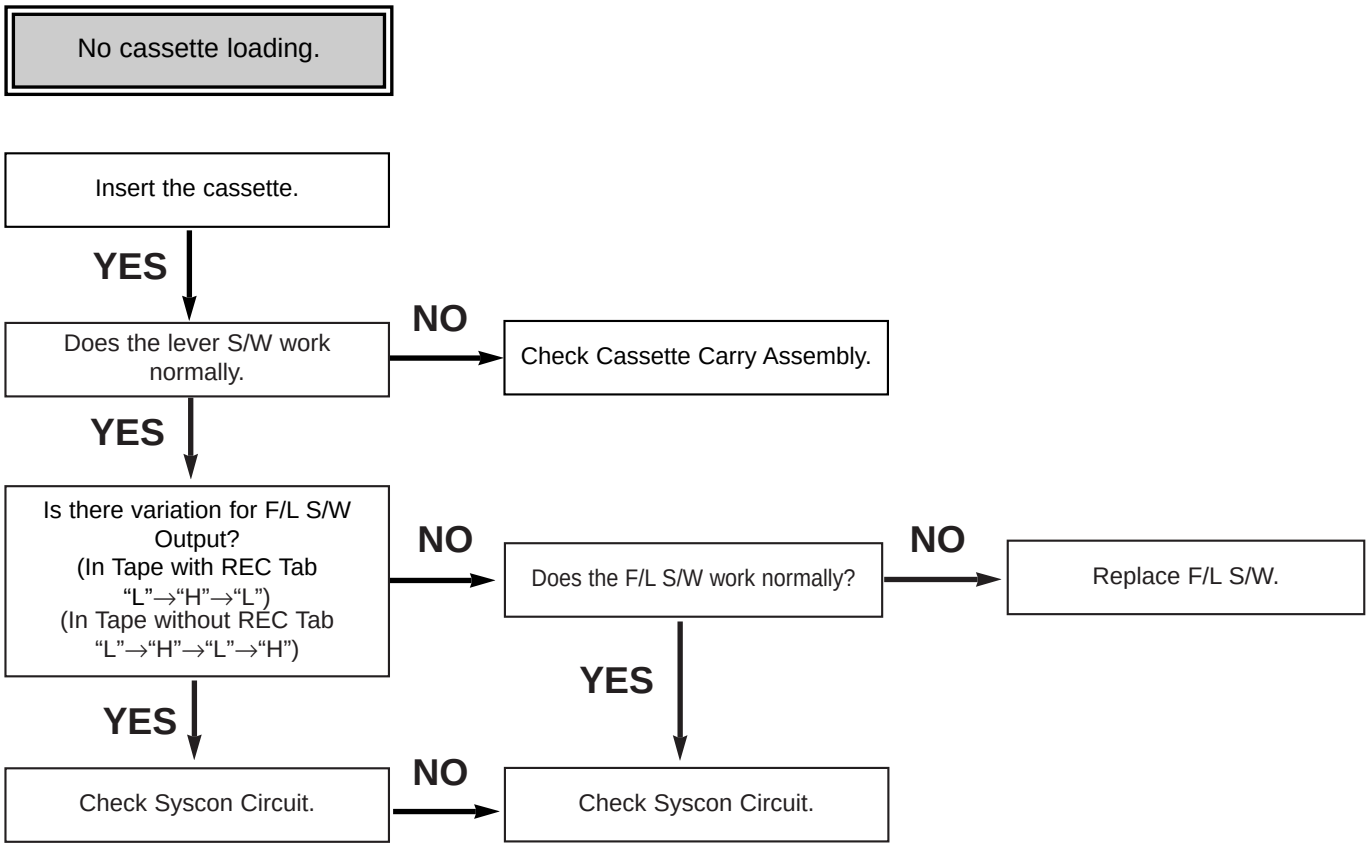


MECHANISM TROUBLESHOOTING GUIDE

C.

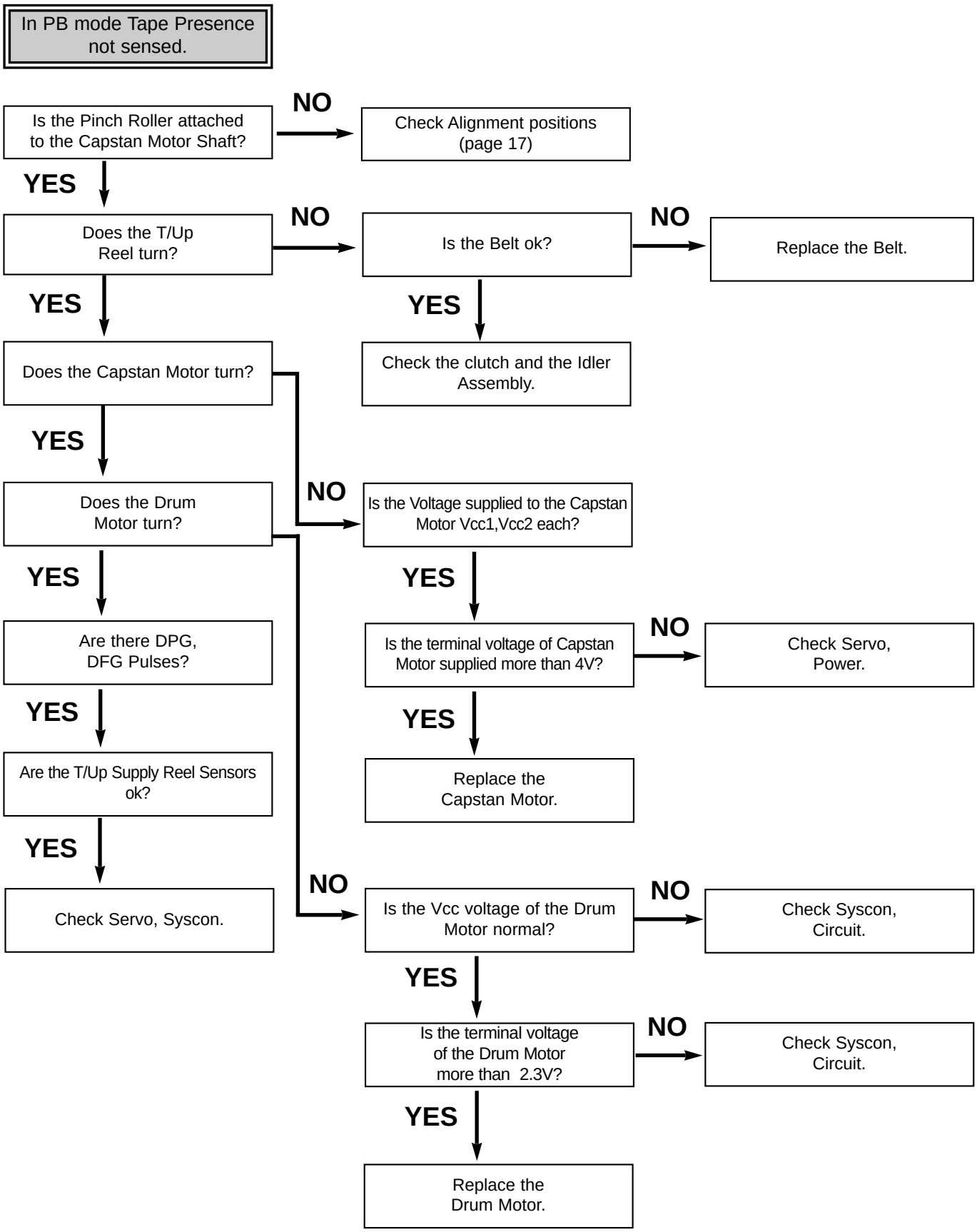


D.



MECHANISM TROUBLESHOOTING GUIDE

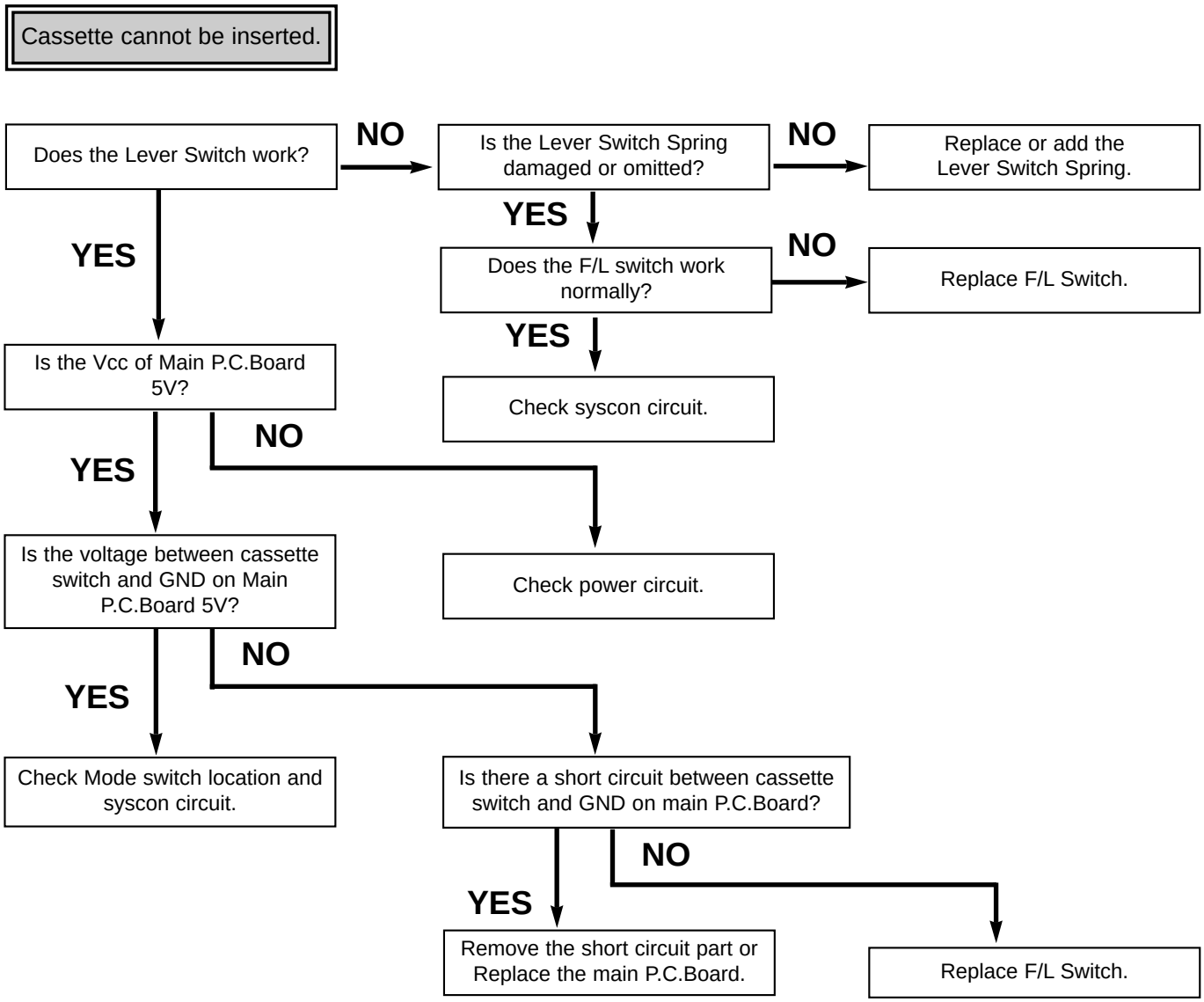
E.



MECHANISM TROUBLESHOOTING GUIDE

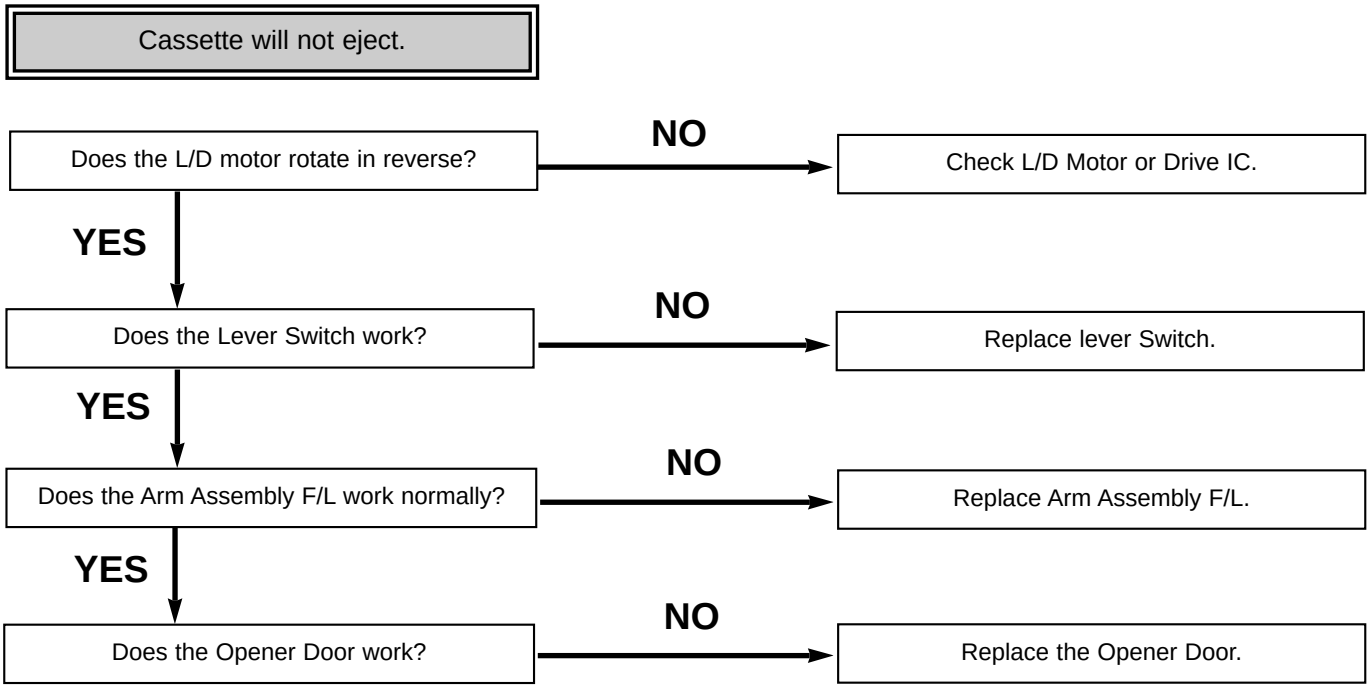
2. Front Loading Mechanism

A.


Cassette cannot be inserted.
Does the Lever Switch work?
NO
Is the Lever Switch Spring damaged or omitted?
NO
Replace or add the Lever Switch Spring.
YES
YES
Does the F/L switch work normally?
NO
Replace F/L Switch.
YES
Is the Vcc of Main P.C.Board 5V?
Check syscon circuit.
NO
YES
Is the voltage between cassette switch and GND on Main P.C.Board 5V?
Check power circuit.
NO
YES
Check Mode switch location and syscon circuit.
Is there a short circuit between cassette switch and GND on main P.C.Board?
NO
YES
Remove the short circuit part or Replace the main P.C.Board.
Replace F/L Switch.

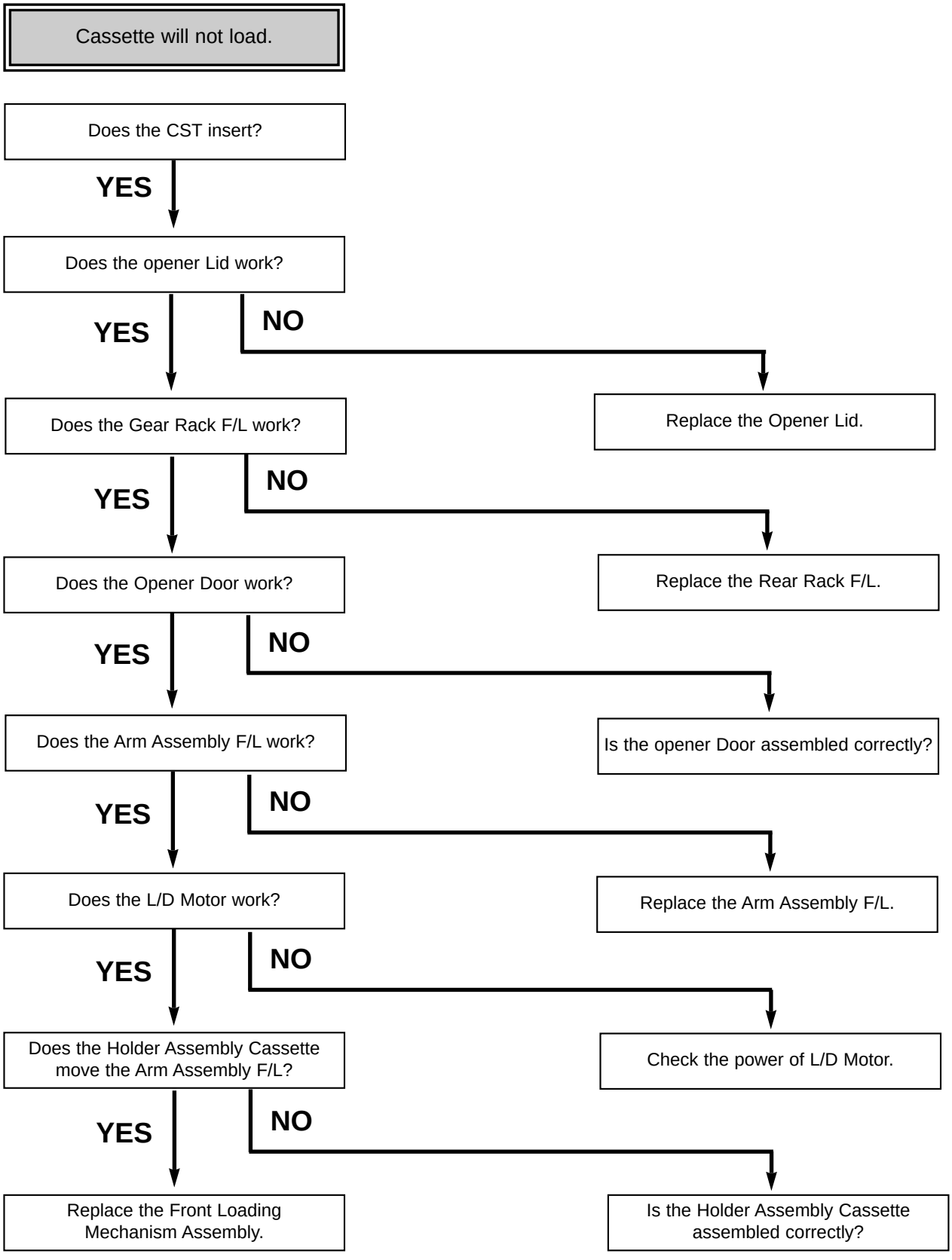
MECHANISM TROUBLESHOOTING GUIDE

B.

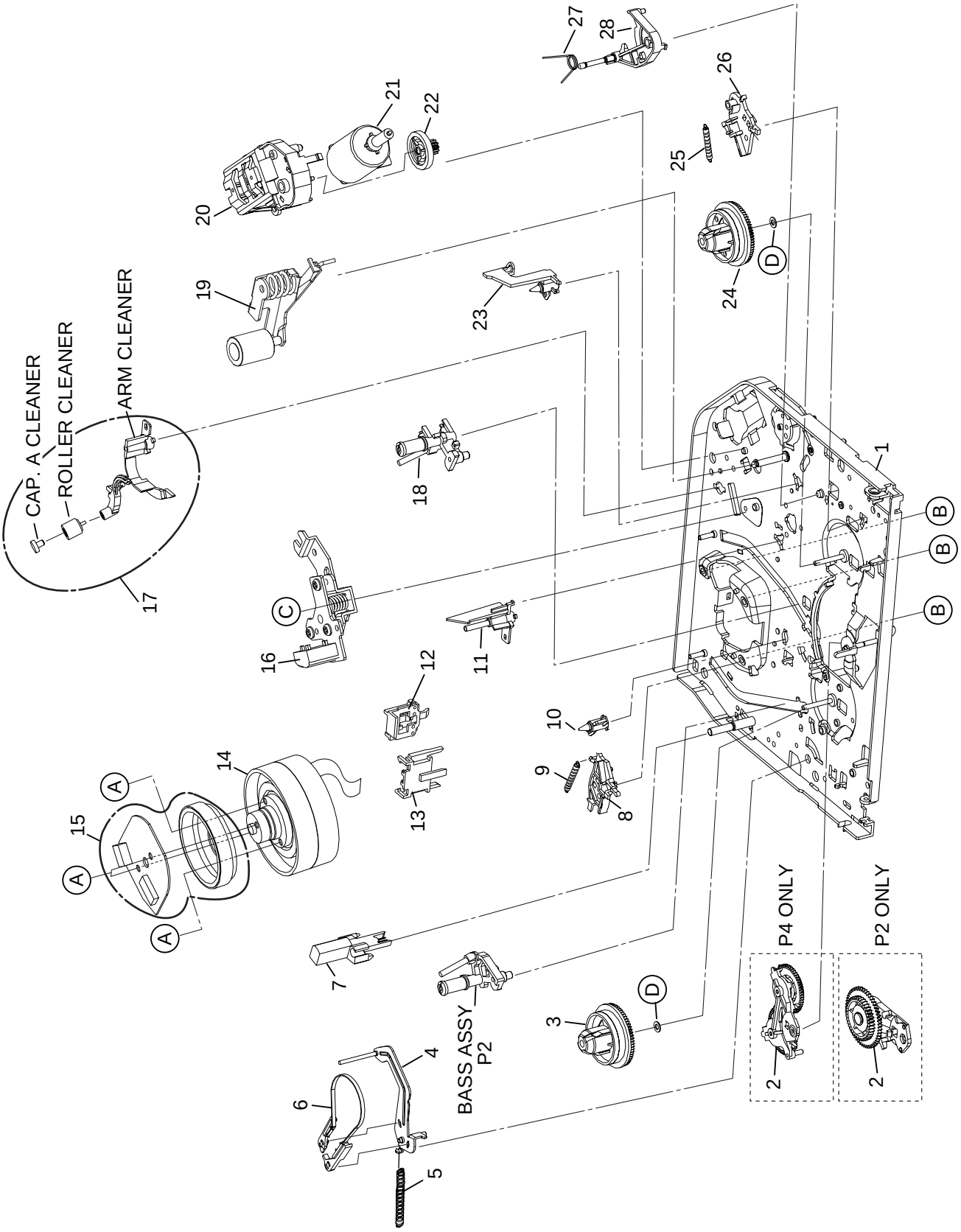


MECHANISM TROUBLESHOOTING GUIDE

C.



MECHANISM EXPLODED XIEW 1/3

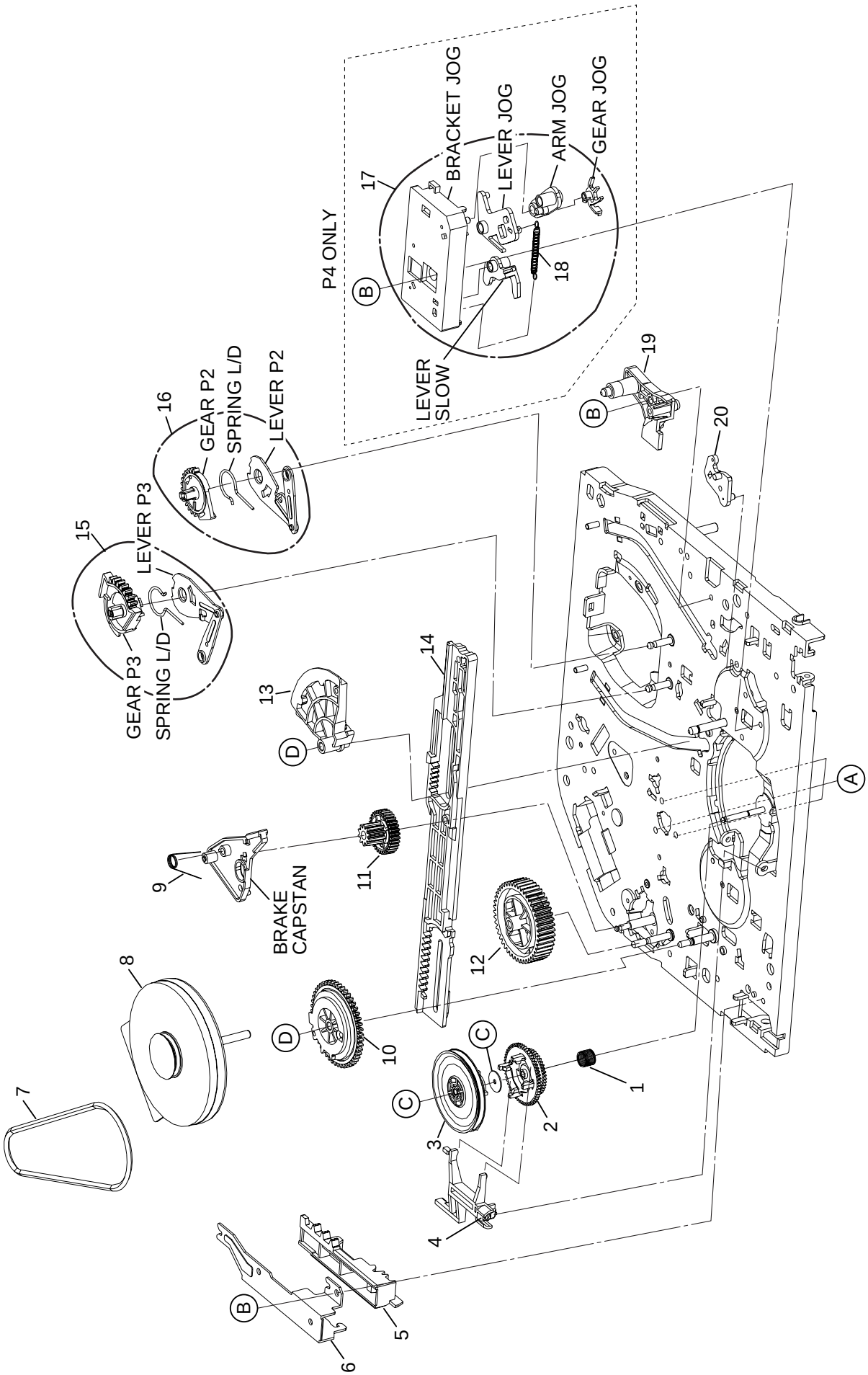


MECHANISM MAIN PARTS LIST 1/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S1-41R-000-2A0		CHASSIS ASSY
2	S2-61R-000-9A0		ARM ASSY IDLER-J<P4>
2	S2-61R-000-8A0		ARM ASSY IDLER-J<P2>
3	S4-08R-000-1A0		REEL S
4	S2-61R-000-4A0		ARM ASSY TENSION
5	S9-70R-005-2A0		SPRING TENSION
6	S7-70R-000-4A0		BAND ASSY TENSION(MECH)
7	S5-238-33B-000		HEAD FE D33
8	S4-21R-000-3A0		BRAKE ASSY S
9	S9-70R-005-4A0		SPRING SB
10	S9-80R-001-0A0		SUPPORTER CST
11	S0-41R-000-7A0		BASE ASSY P4
12	S0-06R-001-4A0		CAP,FPC
13	S9-30R-010-7A0		HOLDER FPC<P4>
13	S9-30R-010-6A0		HOLDER FPC<P2>
14	S7-23R-010-1B0		DRUM ASSY SUB D33 2HD<P2>
14	S7-23R-010-2D0		DRUM ASSY SUB D33 4HD<P4>
15	S6-80R-B00-04A		MOTOR(MECH)
16	S0-41R-000-5A0		BASE ASSY A/C HEAD
17	S2-61R-000-3A0		ARM ASSY CLEANER
18	S0-41R-000-4A0		BASE ASSY P3
19	S2-61R-001-1A0		ARM ASSY PINCH
20	S8-10R-005-3A0		BRACKET L/D MOTOR
21	S6-81R-000-7A0		MOTOR ASSY L/D
22	S4-70R-002-5A0		GEAR WHEEL
23	S8-70R-000-1A0		OPENER LID
24	S4-08R-000-2A0		REEL T
25	S9-70R-005-3A0		SPRING TB
26	S4-21R-000-4A0		BRAKE ASSY T
27	S9-70R-004-3A0		SPRING T/UP
28	S2-60R-001-1A0		ARM T/UP
29	S0-41R-000-3A0		BASE ASSY P2
A	87-261-071-410		PAN HEAD SCREW 2.6-4
B	87-261-094-410		PAN HEAD SCREW 3-6
C	87-741-095-410		SCREW,PAN HEAD 3.0-8.0
D	S3-540-01B-000		WASHER,P.S 3.1-6-0.5

MECHANISM EXPLODED VIEW 2/3

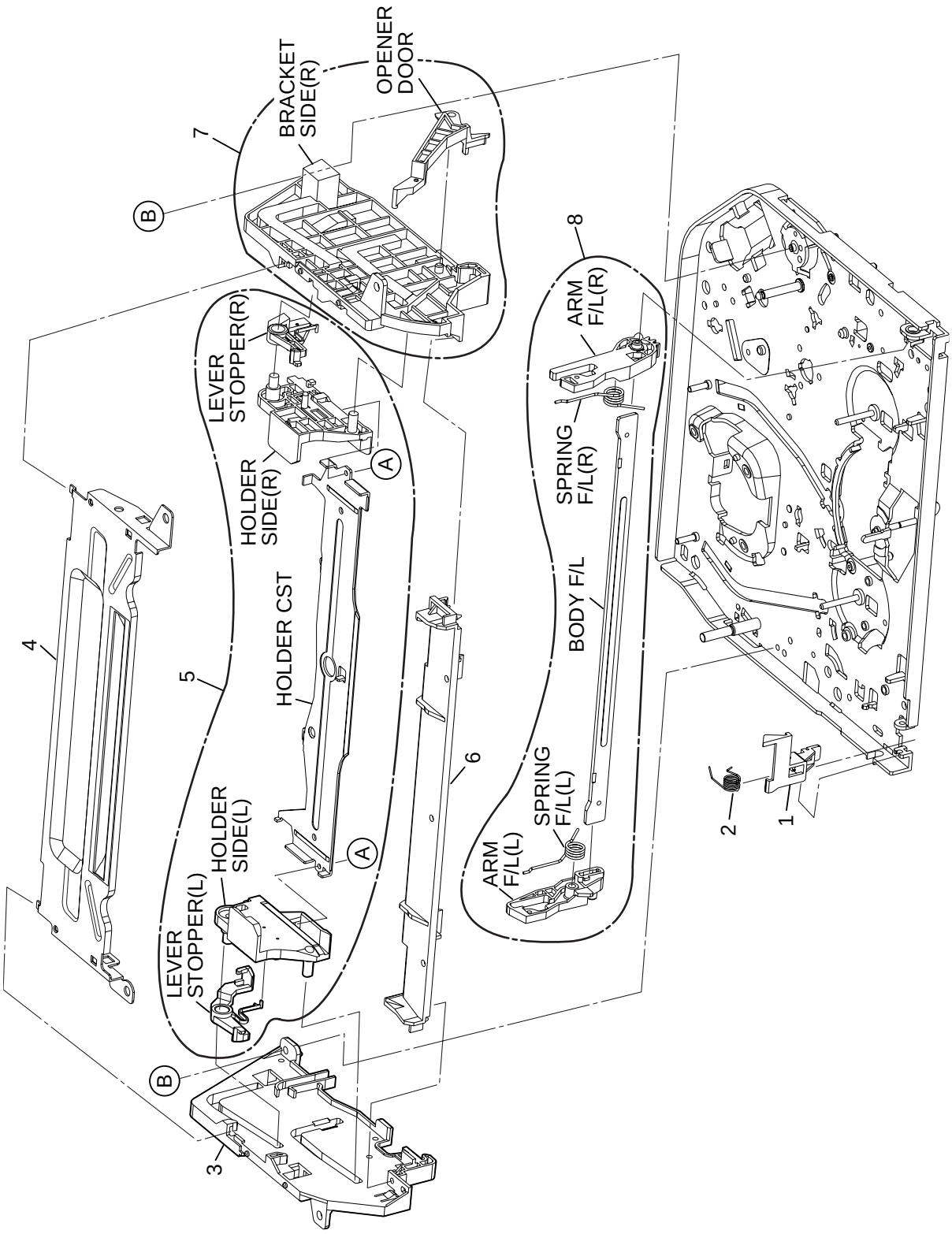


MECHANISM MAIN PARTS LIST 2/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S9-70R-005-1A0		SPRING UP/D
2	S4-70R-004-4A0		GEAR ASSY UP/D
3	S2-65R-000-2A0		CLUTCH ASSY
4	S5-10R-002-5A0		LEVER F/R
5	S4-70R-003-7A0		GEAR RACK F/L
6	S9-74R-001-8A0		GUIDE RACK F/L
7	S4-00R-000-5A0		BELT CAPSTAN
8	S6-80R-A00-03A		MOTOR CAPSTAN(MECH)
9	S9-70R-005-9A0		SPRING CAPSTAN
10	S4-70R-003-3A0		GEAR DRIVE
11	S4-70R-003-6B0		GEAR CONNECT
12	S4-70R-003-2A0		GEAR CAM
13	S4-70R-003-4A0		GEAR SECTOR
14	S3-00R-015-7A0		PLATE SLIDER
15	S4-70R-002-8A0		GEAR ASSY P3
16	S4-70R-002-6A0		GEAR ASSY P2
17	S8-11R-001-2A0		BRACKET ASSY JOG<P4>
18	S9-70R-004-9A0		SPRING JOG<P4>
19	S0-40R-001-8A0		BASE TENSION
20	S5-10R-002-2A0		LEVER TENSION
A	SA-PF0-262-218		SCREW,PAN HEAD 2.6-6.8
B	87-261-094-410		PAN HEAD SCREW 3-6
C	SW-ZZR-000-4B0		WASHER STOPPER
D	SW-ZZR-000-4A0		WASHER STOPPER

MECHANISM EXPLODED VIEW 3/3



MECHANISM MAIN PARTS LIST 3/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S5-10R-002-0A0		LEVER SWITCH
2	S9-70R-005-0A0		SPRING SWITCH
3	S8-10R-005-6A0		BRACKET SIDE(L)
4	S3-01R-002-9A0		PLATE ASSY TOP
5	S9-31R-001-5A0		HOLDER ASSY CST
6	S9-74R-001-9A0		GUIDE CST
7	S8-11R-001-4A0		BRACKET ASSY DOOR
8	S2-61R-001-0A0		ARM ASSY F/L
A	87-841-034-210		SCREW PAN HEAD 2.0-5.0
B	87-261-094-410		PAN HEAD SCREW 3-6

サービス技術ニュース	
番号	連絡内容
G一　一	
G一　一	
G一　一	

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